

MULLETT AIR SHAFT "IBR" 425-11  
Surface Only D-425 Permit  
Approved 9/29/06---- With related info



## Coal Mining and Reclamation Permit Incidental Boundary Revision (IBR)

**Issued To:** AMERICAN ENERGY CORP  
43521 Mayhugh Hill Rd.  
Twp Hwy 88  
Beallsville, OH 43716

**Telephone:** (740) 926-9152

**Permit Number:** D-425

**Application Number:** IBR-425-14

**Acreage:** 0.90

**Effective:** 09/27/2007

**Expires:** 10/21/2009

**Type of Operation:** Underground (Longwall)

**Reason:** Facilitate Airshaft Construction

### LOCATION OF PERMIT AREA

NAME OF LANDOWNERS	T	R	SECTION	LOTS	TOWNSHIP	COUNTY
American Energy Corporation	4	4	24		SUNSBURY	MONROE

The issuance of this IBR means only that the application to conduct a coal mining operation meets the requirements of Chapter 1513 of the Revised Code, and as such DOES NOT RELIEVE the operator of any obligation to meet other federal, state or local requirements.

This IBR is issued in accordance with and subject to the provisions, conditions, and limitations of Chapter 1513 of the Revised Code and Chapters 1501:13-1, 1501:13-3 through 1501:13-14 of the Administrative Code.

The approved water monitoring plan for this IBR is:

**Quality:** N/A

**Quantity:** N/A

**Note:** Any previous condition(s) imposed on this permit, or subsequent adjacent areas, also apply to this IBR unless noted otherwise.

**Signature:** Scott Keel *SK* **Date:** 09/27/2007  
Chief, Mineral Resources Management

OPERATOR

OHIO DEPARTMENT OF NATURAL RESOURCES  
DIVISION OF MINERAL RESOURCES MANAGEMENTAPPLICATION FOR INCIDENTAL BOUNDARY REVISION (IBR)  
(This form cannot be utilized for the removal of coal)

1. Applicant's Name: American Energy Corporation
2. Address: 43521 Mayhugh Hill Road  
City, State, Zip: Beallsville, Ohio 43716  
Telephone: 740-926-9152
3. Coal Mining Permit Number: D-0425 Mine Name Century Mine
4. Additional acres to be permitted: 0.9 MSHA # 33-01070
5. Acres to be deleted N/A
6. Has this acreage been affected under this permit?  
☒ Yes, ☐ No If "yes," list violation number(s).  
No Violation
- Has this acreage previously been affected by other activities other than this permit?  
☐ Yes, ☒ No If "yes," describe:
7. Describe the reason this additional acreage is required.  
To facilitate construction
8. Describe the activities to be conducted on this area.  
The area was disturbed during the construction of the clarifier and sump. The area inadvertently disturbed has already been seeded.

9. List all surface and mineral owners within the IBR area.

Surface and Mineral Owner Names	County	Township	Section	Lot	T-	R-
Name <b>American Energy Corp.</b> Address <b>43521 Mayhugh Hill Rd.</b> City <b>Beallsville</b> State <b>Ohio</b> Zip <b>43716</b> Surface <input checked="" type="checkbox"/> Mineral <input checked="" type="checkbox"/>	<b>Monroe</b>	<b>Sunsbury</b>	<b>24</b>	<b>N/A</b>	<b>4</b>	<b>4</b>
Name Address City State Zip Surface <input type="checkbox"/> Mineral <input type="checkbox"/>						
Name Address City State Zip Surface <input type="checkbox"/> Mineral <input type="checkbox"/>						
Name Address City State Zip Surface <input type="checkbox"/> Mineral <input type="checkbox"/>						
Name Address City State Zip Surface <input type="checkbox"/> Mineral <input type="checkbox"/>						
Name Address City State Zip Surface <input type="checkbox"/> Mineral <input type="checkbox"/>						



10. Is any owner, holder or purchaser listed in item 9, a business entity other than a single proprietorship?

Yes ☒ No ☐ If "yes," submit Other Business Entities. See "Other Business Entities" in approved IBR-0425-11.

11. Is any part of this IBR application area adjacent (within 100') to any lands, which are not owned by those persons identified in item 9?

Yes ☐ No ☒ If "yes," submit Adjacent Owners

12. Identify the right of entry documentation that is being provided that allows for coal mining operations on this IBR area:

☐ A copy of the right-of-entry documents attached as addenda, or

☒ A Right-of-Entry Affidavit

See approved IBR-0425-11

13. Has the private mineral estate (coal) been severed from the private surface estate?

Yes ☐ No ☒ If "yes," indicate which documentation is provided:

☐ Surface Owners' Consent

☐ A copy of the document of conveyance that allows the proposed activities

☐ If the document of conveyance does not expressly allow the proposed activities, documentation that under state law the applicant has the legal authority to conduct the proposed activities.

14. Does the IBR application area include any area dedicated as a nature preserve pursuant to Chapter 1517 Ohio Revised Code?

Yes ☐ No ☒ If "yes," submit proof of valid existing rights.

15. Does the IBR application area include any area within one thousand feet of the waterlines of any wild, scenic or recreational river dedicated pursuant to Chapter 1501 Ohio Revised Code?

Yes ☐ No ☒ If "yes," submit proof of valid existing rights.

Application for an Incidental Boundary Revision

Revised 02/06

DNR-744-9005

16. Does the IBR application area include any area within the boundaries of the following systems: national park, national wildlife refuge, national trails, national wilderness preservation, national recreational areas or wild and scenic rivers or river corridors including those rivers under study?

Yes ☐ No ☒ If "yes," submit proof of valid existing rights.

17. Does the IBR application area include any federally owned lands within the boundaries of any national forest?

Yes ☐ No ☒ If "yes," submit approval of U.S. Secretary of Interior or proof of valid existing rights.

18. Will operations conducted within this IBR adversely affect any publicly owned park or places included on the National Register of Historic Places?

Yes ☐ No ☒ If "yes," submit joint approval from the chief and the federal, state or local agency with jurisdiction over the park or places or proof of valid existing rights and describe the measures to be used to prevent or minimize these impacts.

19. Will operations conducted within this IBR affect land within one hundred feet of the outside right-of-way of a public road or result in mining through a public road?

Yes ☐ No ☒ If "yes," list the public road(s) in the space below and submit Public Road Consent or proof of valid existing rights.

20. Will operations conducted within this IBR affect land within three hundred feet of any occupied dwelling?

Yes ☐ No ☒ If "yes," list the name of the owner(s) in the space below and submit Occupied Dwelling Consent or proof of valid existing rights.

21. Will operations conducted within this IBR affect land within three hundred feet of any public building, school, church, community or institutional building or public park?

Yes ☐ No ☒ If "yes," submit proof of valid existing rights.

22. Will operations conducted within this IBR affect land within one hundred feet of a cemetery?

Yes ☐ No ☒ If "yes," submit proof of valid existing rights or appropriate authorization to relocate the cemetery.

23. Is this IBR application area within an area designated unsuitable for coal mining operations or under study for designation in an administrative proceeding?

Yes ☐ No ☒

If "yes," did the applicant make substantial legal and financial commitments in this IBR application area prior to January 4, 1977? Yes ☐ No ☐ If "yes," provide documentation supporting the assertion that the commitments were made prior to January 4, 1977.

24. In order to address the nature of cultural, historic and archeological resources, submit Archeology - Surface.
25. Describe the uses of the land existing at the time of the filing of this IBR application area and provide a map delineating the area and acreage of each land use.

**The proposed I.B.R. area was composed entirely of cropland.**

26. Describe the use of the land, including the creation of permanent impoundments, that is proposed to be made of the land following reclamation, including information regarding the utility and capacity of the reclaimed land to support a variety of alternative uses. Provide a map that delineates the area and acreage of each proposed land use, and submit assurance of maintenance for each permanent impoundment.

**The use of the land following reclamation will be cropland. The post-mining land use for this area will be aesthetically appropriate and corresponds with adjacent land uses. Grasses and legumes will be used as a cover crop. Following reclamation, the capability and productivity of the land will be greater than that at the present time. The reclaimed land could sustain other agricultural or recreational uses.**

OHIO DEPARTMENT OF NATURAL RESOURCES  
DIVISION OF MINERAL RESOURCES MANAGEMENT

ARCHEOLOGY - SURFACE

1. Applicant's Name **American Energy Corporation**  
Address **43521 Mayhugh Hill Road**  
City **Beallsville** State **Ohio** Zip **43716**
2. Contact Person **Jack A. Hamilton & Assoc., Inc.** Phone **740-968-4947**
3. Location and Acreage Information  
County **Monroe** Township **Sunsbury**  
Section **24** Lot(s) **T-4, R-4**  
USGS Quadrangle **Cameron** Acreage **0.9**
4. Application Map Attached: (area described in 3 above is to be outlined on the map)
5. Previous Disturbance:

☐ present; ☒ absent within application area only (Note: previous disturbance is any type of natural or human made disturbance to the topsoil and subsoil in the application area prior to submittal. Examples include, but are not limited to, slides, severe erosion, previous mining activities, clear cut logging, recreational activities, etc., but not agricultural plowing and discing.)

If previous disturbance is present, list below and clearly delineate the extent of each type of disturbance on the application map to be sent to the SHPO by the division. Attach addendum, if necessary.

Type of Disturbance	Date Occurred	Percent of Application	Map Symbol

## 6. Current Land Use: (describe land use and percent of land in that use)

Agricultural: **100% (Cropland used for hay)**

Residential:

Mining:

Pasture:

Secondary Forest Growth:

Has area been clear cut logged? Yes ☐, No ☒  
 If "yes," indicate approximate date(s) of logging.

Other:

## 7. Historic and Prehistoric Structures:

Definitions

A historic or prehistoric structure is a work made up of interdependent and interrelated parts in a definite pattern of organization. Constructed by humans, and 50 years or older, it is usually an engineering project.

Types

Historic structures include, but are not limited to dwellings, buildings, barns, farmstead outbuildings, bridges, culverts, churches, schools, halls, iron furnaces (and associated buildings), canals, forts, abandoned coal mine buildings, mine entrances, tipples and related structures, etc.

Prehistoric structures include, but are not limited to, earthworks, mounds, rockshelters, etc.

List all known historic and prehistoric structures below and locate each one on the application map to be sent to the SHPO including corresponding labeled black and white, front and rear photographs of each structure. Attach addendum, if necessary.

Structure Type	Construction Date	Map Reference	Photo # Front	Photo # Rear
None				

8. Previous Historic and/or Archeological Surveys: (describe any surveys known to applicant on the application area or adjacent areas)

Application area: **None**

Adjacent areas: **None**

9. **SHPO please send this form to:**  
 Division of Mineral Resources Management  
 Attn: Division Archeologist  
 2045 Morse Road, Building H-3  
 Columbus, Ohio 43229-6693

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**FOR USE BY THE STATE HISTORIC PRESERVATION OFFICE ONLY**

(check appropriate space)

- A. ☐ This is a recommendation for an archeological survey of the application based on the following reasons (attach addendum, if necessary):

**None**

A SHPO review of the area shown on the application map has provided a listing below of all known historic and prehistoric properties listed and eligible for listing on the "National Register of Historic Places" and known historic and prehistoric sites on the application area and adjacent areas (in a 1.5 mile radius). The listing includes, when appropriate, those historic and prehistoric structures identified by the applicant in items 7 and 8 above.

Listed and Eligible National Register Sites

Site Name (#)	Type	Application Area	Adjacent Area

Known Historic and Prehistoric Sites

Site Name (#)	Type	Application Area	Adjacent Area

- B. ☐ A SHPO review of the area shown on the application map and information contained in this form finds that the proposed mining does not have a reasonable probability of affecting any properties listed or eligible for listing on the "National Register of Historic Places." Therefore, no further coordination will be necessary with this office unless the scope of the application area changes.

State Historic Preservation Officer \_\_\_\_\_

SHPO # \_\_\_\_\_

Date \_\_\_\_\_

27. Submit Surface Owner Comments from the legal or equitable owner(s) of record of the IBR application area concerning the proposed land use.

**See attached Surface Owner Comments.**

28. Is the post-mining land use to be different from the pre-mining land use?

Yes ☐ No ☒ If "yes," submit Land Use Change Notification.

29. Submit Negative PFL Determination for areas within this IBR application area that are not prime farmland.

Having considered the negative determinations, does this IBR application area include any land that is prime farmland? Yes ☐ No ☒

If "yes," submit PFL Restoration Plan or describe how this area will be avoided.

**See attached original IBR-0425-11 for negative PFL determination which included this area.**

30. Are any of the variances listed below being requested?

Yes ☐ No ☒ If "yes," identify the variances and submit the applicable request(s) as an addendum.

☐ Stream buffer zone ☐ Small area drainage exemption

31. Will the proposed IBR area result in diversions of overland flow away from the disturbed area?

Yes ☐ No ☒ If "yes," provide the required engineering designs.

32. Will the proposed IBR area result in construction of diversions to direct runoff through a sediment pond or a series of sediment ponds?

Yes ☐ No ☒ If "yes," provide the required engineering designs.



OHIO DEPARTMENT OF NATURAL RESOURCES  
DIVISION OF MINERAL RESOURCES MANAGEMENT

SURFACE OWNER COMMENTS

TO: American Energy Corporation

FROM: American Energy Corporation

Location of Proposed Permit Area:

County/Twp: Monroe / Sunbury

Lot/Section: 24

The proposed postmining land use(s) for your property is/are checked below:

<input checked="" type="checkbox"/>
<input checked="" type="checkbox"/>
<input type="checkbox"/>
<input type="checkbox"/>
<input type="checkbox"/>
<input type="checkbox"/>
<input type="checkbox"/>

Cropland

Pasture Land

Grazing Land

Industrial Land Use

Commercial Land Use

Developed Water Resources

<input type="checkbox"/>
<input type="checkbox"/>
<input type="checkbox"/>
<input type="checkbox"/>
<input type="checkbox"/>
<input type="checkbox"/>

Residential Land Use

Forest

Undeveloped Land Use

Fish & Wildlife

Recreation Land Use

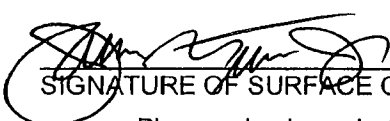
Pursuant to 1501:13-4-05(G)(2) of the Ohio Administrative Code, surface owner comments concerning the proposed postmining land use(s) for the proposed permit area are required. Please check the appropriate box below.

<input checked="" type="checkbox"/>
<input type="checkbox"/>

I concur with the proposed postmining land uses identified by the mine operator.

I DO NOT concur with the proposed postmining land uses.

COMMENTS:



TREASURER

SIGNATURE OF SURFACE OWNER

6/12/06  
DATE

Please check each (if any) of the following listed wildlife enhancements that you would be interested in having on your property. **PLEASE NOTE:** Checking a box does not require the operator to provide any or all of selected enhancements. This form is a tool to help landowners better understand options that may be available through the coal company.

<input type="checkbox"/>
<input type="checkbox"/>
<input type="checkbox"/>
<input type="checkbox"/>

Tree/Shrub Plantings

Ponds/Wetlands

Brushpiles

Rockpiles

<input type="checkbox"/>
<input type="checkbox"/>
<input type="checkbox"/>
<input type="checkbox"/>

Small Depressions

Perching/Nesting Structures

Other: ☐

Other: ☐

**WAIVER STATEMENT (Optional for Surface Owner):** I, the above named surface owner, waive my right to comment on any revision to the permit application during the application review process that results in a change in the postmining land use(s) from those shown above. (NOTE: I DO NOT WAIVE MY RIGHT TO COMMENT ON ANY PROPOSED POSTMING LAND USE CHANGE AFTER PERMIT ISSUANCE.)

SIGNATURE OF SURFACE OWNER

DATE

Part 2: Section F

**OHIO DEPARTMENT OF NATURAL RESOURCES  
DIVISION OF MINERAL RESOURCES MANAGEMENT  
NEGATIVE PFL DETERMINATION**

Applicant's Name **American Energy Corporation**

Check (X) the appropriate item numbers and attach the documents used to make the demonstration.

- ☐ 1. Lands within the application area have not been historically used for cropland.
- ☐ 2. The slope of the land within the application area is greater than eight percent.
- ☐ 3. The total prime farmland soil unit (inside **and** outside of the application area) is less than three acres.
- ☒ 4. On the basis of a second order soil survey meeting the standards of the National Cooperative Soil Survey, there are no soil map units within the application area that have been designated prime farmland by the U.S. Natural Resource Conservation Service.
- ☐ 5. On the basis of a first order soil survey commissioned by the applicant and meeting the standard of the National Cooperative Soil Survey, there were found to be no prime farmland map units as designated by the NRCS within the application area (see PFL Restoration Plan, item 2 for 1st order survey criteria).

**Part 2: Section G**

**Certification of Prime/Nonprime Farmland**

Name of Mine Operator *AMERICAN ENERGY CORPORATION*

Location of Permit Application Area *Sec 24 T-4-R-4 Sunbury*

Size of Permit Area (Acres) *8 ± AC*

**Check Appropriate Block:**

1.



I have determined that this permit application DOES NOT contain prime farmland in accordance with the edition of the current county Prime Farmland Map Unit List found in the county Field Office Technical Guide.

2.

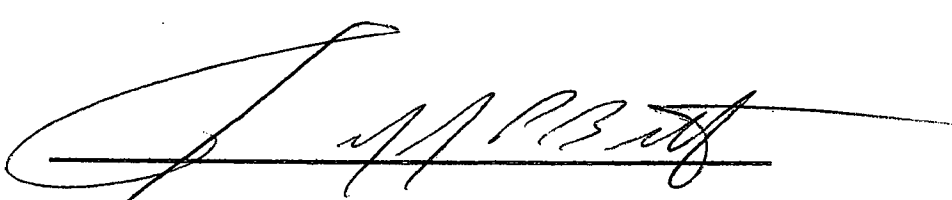


I have found that this permit application CONTAINS prime farmland in accordance with the edition of the Prime Farmland Map Units for Ohio and for the current county Prime Farmland Map Unit List, whichever is more current.

A soil map has been attached and prime unit(s) are as follows:

**Soil Map Symbol**

**Map Unit Name**

Signature: 

**Jeff Bettinger, Natural Resources Conservation Service**  
1119 East Main St., Barnesville, OH 43713 (740) 425-1100 Ext. 112

# Soils Map

Field Office: BARNESVILLE SERVICE CENTER

Agency: USDA-NRCS

Assisted By: Jeffery Parker Bettinger

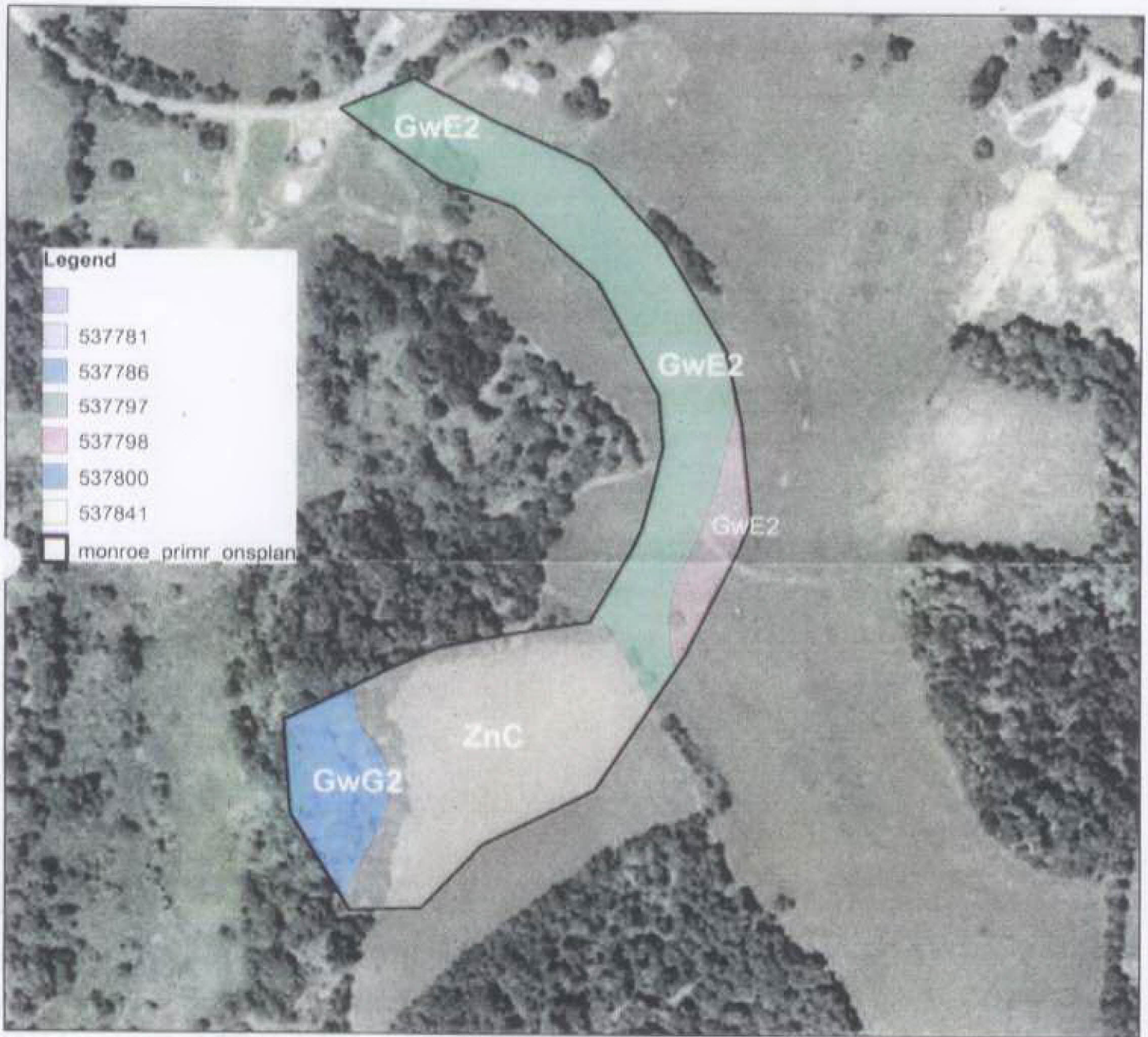


Image: Orthophotography

140 0 140 280 420 560 Feet



AEC 07964

33. Indicate which of the following are proposed to be constructed within this IBR application area, and provide the required engineering designs for each.

- ☐ Sedimentation pond(s) (submit Pond/Impoundment Plan)
- ☐ Water impoundments, including wetlands that impound water (submit Pond/Impoundment Plan)
- ☐ Sumps
- ☒ Other (specify) **None**

34. Are any roads to be constructed, used or maintained within this IBR application area?

Yes ☐ No ☒ If "yes," provide the required description and engineering designs.

35. Are there any conveyor or rail systems to be constructed, used or maintained within this IBR application area?

Yes ☐ No ☒ If "yes," provide the required description and engineering designs.

I, the undersigned authorized representative of the permittee, hereby attest that no coal has been or will be removed from the acreage identified in this application and verify the information in this application as true and correct to the best of my information and belief.

Printed Name: **Fred M. Blumling**

Signature: *Fred M. Blumling*

Title: **Environmental Engineer**

Date Signed: 2-22-07

Sworn before me and subscribed in my presence this 22nd day of February, 20 07.

*Eileen M. Green*  
Notary Public

Application for an Incidental Boundary Revision  
Revised 02/06  
DNR-744-9005

Notary Public  
Notary Seal  
2011

FOR DIVISION USE ONLY

This application is hereby ☒ issued, ☐ disapproved

☒ The acreage identified in Item 4 of this application is now part of permit 0.9.

☐ The acreage identified in Item 5 of this application has been deleted from permit \_\_\_\_\_.

Date: 9-27-07

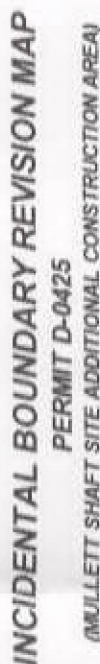
Signed: Scott Kell #8.  
Chief, Division of Mineral Resources Mgmt.

\$ 2,250<sup>00</sup> of performance bond received on 6-14-07 and  
\$ \_\_\_\_\_ of acreage fee received on \_\_\_\_\_.



AEC 07967

THE PRE- AND POST-MINING LAND USE  
ON THE I.B.R. AREA IS CROPLAND.



MULLETT SHAFT SITE ADDITIONAL CONSTRUCTION AREA

American Energy Corporation  
43521 Mayhugh Hill Road  
Beallsville, Ohio 43716



AREA TO BE INCLUDED UNDER  
U.B.R. 0.9 ACRES.



IBR-0425-11



COAL PARCEL TRACT LINE



UNDERGROUND MINE,  
PORT-270, #8 COAL SEAM

PERMIT D-0425-5

EXISTING TOPSOIL PILE

SITUATED IN SECTION 24, T-4 R-4,  
SUNSBURY TOWNSHIP, MONROE COUNTY, OHIO.

LOCATED ON THE CAMERON USGS  
7 1/2 MINUTE QUADRANGLE MAP.

SCALE: 1" = 400' CONTOUR INTERVAL: 20'

DATE PREPARED: January 22, 2007

DATE REVISED: 4-23-07 DATE REVISED: 5-1-07

\_\_\_\_\_, THE UNDERSIGNED, HEREBY CERTIFY THAT TO THE BEST OF MY KNOWLEDGE AND BELIEF THIS MAP IS TRUE AND CORRECT.

Cathy M. Bellman  
REGISTERED SURVEYOR, P.S. # 7199

ACKNOWLEDGED BEFORE ME A NOTARY PUBLIC  
THIS 1st DAY OF May, 2007.

500 m

My Commission Expires September 23, 2011

COMMENT: #02001-12



OHIO DEPARTMENT OF NATURAL RESOURCES  
DIVISION OF MINERAL RESOURCES MANAGEMENT

OTHER BUSINESS ENTITIES

Applicant's Name **American Energy Corporation**

A separate attachment is to be submitted for each business entity.

Name of business entity **American Energy Corporation**

Statutory agent **A & H Statutory Corp.**

Street Address **1100 Huntington Bldg.**

City **Cleveland** State **OH** Zip **44115**

Person's name **Robert E. Murray** Position **President**

Street Address **43521 Mayhugh Hill Road**

City **Beallsville** State **OH** Zip **43716**

Person's name **Murray Energy Corporation** Position **Sole Shareholder**

Street Address **43521 Mayhugh Hill Road**

City **Beallsville** State **OH** Zip **43716**

Person's name **Michael O. McKown** Position **Secretary**

Street Address **43521 Mayhugh Hill Road**

City **Beallsville** State **OH** Zip **43716**

Person's name **\_\_\_\_\_** Position **\_\_\_\_\_**

Street Address **\_\_\_\_\_**

City **\_\_\_\_\_** State **\_\_\_\_\_** Zip **\_\_\_\_\_**

Part 1: Section C  
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OHIO DEPARTMENT OF NATURAL RESOURCES  
DIVISION OF MINERAL RESOURCES MANAGEMENT

OTHER BUSINESS ENTITIES

Applicant's Name **American Energy Corporation**

A separate attachment is to be submitted for each business entity.

Name of business entity **American Energy Corporation**

Statutory agent **See page 1**

Street Address

City State Zip

Person's name **James R. Turner** Position **Treasurer**

Street Address **43521 Mayhugh Hill Road**

City **Beallsville** State **OH** Zip **43716**

Person's name **Robert L. Pusock** Position **Assistant Treasurer**

Street Address **43521 Mayhugh Hill Road**

City **Beallsville** State **OH** Zip **43716**

Person's name Position

Street Address

City State Zip

Person's name Position

Street Address

City State Zip

Part 1: Section C  
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OHIO DEPARTMENT OF NATURAL RESOURCES  
DIVISION OF MINERAL RESOURCES MANAGEMENT

OTHER BUSINESS ENTITIES

Applicant's Name **American Energy Corporation**

A separate attachment is to be submitted for each business entity.

Name of business entity **Murray Energy Corporation**

Statutory agent **Ct. Corporation**

Street Address **1300 East Ninth Street**

City **Cleveland** State **OH** Zip **44114**

Person's name **Robert E. Murray** Position **Chairman CEO, & Shareholder**

Street Address **29325 Chagrin Blvd., Suite 300**

City **Pepper Pike** State **OH** Zip **44122**

Person's name **John R. Forrelli** Position **Vice President**

Street Address **29325 Chagrin Blvd., Suite 300**

City **Pepper Pike** State **OH** Zip **44122**

Person's name **Robert D. Moore** Position **Vice President**

Street Address **29325 Chagrin Blvd., Suite 300**

City **Pepper Pike** State **OH** Zip **44122**

Person's name **\_\_\_\_\_** Position **\_\_\_\_\_**

Street Address **\_\_\_\_\_**

City **\_\_\_\_\_** State **\_\_\_\_\_** Zip **\_\_\_\_\_**

Part 1: Section C  
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**OHIO DEPARTMENT OF NATURAL RESOURCES  
DIVISION OF MINERAL RESOURCES MANAGEMENT**

**OTHER BUSINESS ENTITIES**

Applicant's Name **American Energy Corporation**

A separate attachment is to be submitted for each business entity.

Name of business entity **Murray Energy Corporation**

Statutory agent **Ct. Corporation**

Street Address **1300 East Nineth Street**

City **Cleveland** State **OH** Zip **44114**

Person's name **P. Bruce Hill** Position **Vice President - Human Resources**

Street Address **29325 Chagrin Blvd., Suite 300**

City **Pepper Pike** State **OH** Zip **44122**

Person's name **Michael O. McKown** Position **Secretary**

Street Address **29325 Chagrin Blvd., Suite 300**

City **Pepper Pike** State **OH** Zip **44122**

Person's name  Position

Street Address

City  State  Zip

Person's name  Position

Street Address

City  State  Zip

**Part 1: Section C  
Page 4 of 4**

OHIO DEPARTMENT OF NATURAL RESOURCES  
DIVISION OF MINERAL RESOURCES MANAGEMENT

ADJACENT OWNERS

Applicant's Name **American Energy Corporation**

Name of owner **S. Seebach**

Address **46646 State Route 556**

City **Beallsville** State **OH** Zip **43716**

☒ Surface, ☐ Coal, ☒ Non-Coal Mineral

Name of owner **S. Mullet**

Address **3064 U.S. Highway 50**

City **Beallsville** State **OH** Zip **43716**

☒ Surface, ☐ Coal, ☒ Non-Coal Mineral

Name of owner **R. & G. Mellet**

Address **46534 State Route 556**

City **Beallsville** State **OH** Zip **43716**

☒ Surface, ☐ Coal, ☒ Non-Coal Mineral

Name of owner [REDACTED]

Address [REDACTED]

City [REDACTED] State [REDACTED] Zip [REDACTED]

☐ Surface, ☐ Coal, ☐ Non-Coal Mineral

Name of owner [REDACTED]

Address [REDACTED]

City [REDACTED] State [REDACTED] Zip [REDACTED]

☐ Surface, ☐ Coal, ☐ Non-Coal Mineral

Part 1: Section C

OHIO DEPARTMENT OF NATURAL RESOURCES  
DIVISION OF MINERAL RESOURCES MANAGEMENT

RIGHT-OF-ENTRY AFFIDAVIT

Applicant's Name **American Energy Corporation**

RIGHT-OF-ENTRY AFFIDAVIT

State of Ohio, **Belmont** County, ss. **James R. Turner** being first duly sworn, says that the following described documents convey to the applicant the legal right explained below and is a subject of litigation as shown below.

Type of document **Deed**

Execution Date **June 15, 2006**

Expiration Date **N/A**

Parties: From **S. Mullett** to **American Energy Corporation**

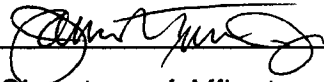
Description of land: Number of Acres **150.639**

County **Monroe** Township **Sunsbury**

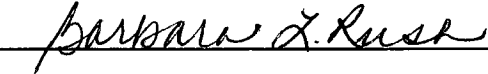
Section **24** Lot

Explanation of legal rights claimed **All rights of ownership.**

Pending litigation Yes ☐ No ☒

<u></u>	<u>6-19-06</u>	<u>Treasurer</u>
Signature of Affiant	Date	Position

Sworn to before me and subscribed in my presence this 19th day of, June, 2006

  
Notary Public



**BARBARA L. RUSH**  
NOTARY PUBLIC, STATE OF OHIO  
MY COMMISSION EXPIRES 9-09-09

Part 1: Section C

Yes ☐ No ☒ If "yes," submit proof of valid existing rights.

SEP 18 2006

DIVISION OF WILDLIFE RESOURCES

16. Does the IBR application area include any area within the boundaries of the following systems: national park, national wildlife refuge, national trails, national wilderness preservation, national recreational areas or wild and scenic rivers or river corridors including those rivers under study?

Yes ☐ No ☒ If "yes," submit proof of valid existing rights.

17. Does the IBR application area include any federally owned lands within the boundaries of any national forest?

Yes ☐ No ☒ If "yes," submit approval of U.S. Secretary of Interior or proof of valid existing rights.

18. Will operations conducted within this IBR adversely affect any publicly owned park or places included on the National Register of Historic Places?

Yes ☐ No ☒ If "yes," submit joint approval from the chief and the federal, state or local agency with jurisdiction over the park or places or proof of valid existing rights and describe the measures to be used to prevent or minimize these impacts.

19. Will operations conducted within this IBR affect land within one hundred feet of the outside right-of-way of a public road or result in mining through a public road?

Yes ☐ No ☒ If "yes," list the public road(s) in the space below and submit Public Road Consent or proof of valid existing rights.

20. Will operations conducted within this IBR affect land within three hundred feet of any occupied dwelling?

Yes ☒ No ☐ If "yes," list the name of the owner(s) in the space below and submit Occupied Dwelling Consent or proof of valid existing rights.

**S. Mullett**

**S. Seebach**

**See attached deeds and addenda for proof of existing rights.**

Application for an Incidental Boundary Revision

Revised 02/06

DNR-744-9005

Addendum to I.B.R., Item 20  
American Energy Corporation

American Energy Corporation claims valid existing right based on deed Volume 90, Page 142, and deed Volume 125, Pages 467 and 470, and Memorandum of Lease Volume 112 Page 161 (which includes surface rights for parcel number 50). American Energy Corporation further states that this coal is needed for, and immediately adjacent to, the ongoing coal mining operation which began in 1967 for which all mine plan approvals and permits were obtained prior to August 3, 1977 as the same is stated in original permit D-0425 in Part 1, Page 11, under Item D(6).

D-0425-11

Transfer Not Necessary  
Date 6-28-02 Sec. 319.202 Completed With  
Pandora J. Neubart, Auditor, Monroe Co., Ohio  
By MS Sec. 9 Mill C

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MONROE CO. RECORD OF

VOL. 90 PAGE 142

RECEIVED

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RECORDED June 28, 2002  
MARTHA LOUISE REIDRECORDER FEE \$170.00

VOL 0090 PAGE 142

## LIMITED WARRANTY DEED

KNOW ALL MEN BY THESE PRESENTS: That NORTH AMERICAN

COAL ROYALTY COMPANY (formerly known as Nortex Royalty Company), a Delaware corporation, with offices at 14785 Preston Road, Suite 1100, Dallas, Texas 75254-7891, the GRANTOR, in consideration of the sum of Ten Dollars (\$10.00) and other valuable consideration to it paid by the CONSOLIDATED LAND COMPANY, an Ohio corporation, whose tax mailing address is 29325 Chagrin Boulevard, Suite 300, Pepper Pike, Ohio 44122, the GRANTEE, the receipt and sufficiency of which is hereby acknowledged, does hereby GRANT, BARGAIN, SELL and CONVEY to said GRANTEE, with limited warranty covenants to the GRANTEE, its successors and assigns, all of the remaining coal, specifically including, but not limited to, the Pittsburgh No. Eight (8) seam or vein of coal contained in or underlying the tracts of land more particularly described on Exhibit "A" attached hereto and made a part hereof; EXCEPT all coal lying in and within three hundred (300) feet of the boundaries of the old mine workings of Bellaire Corporation's Powhatan No. 1 Mine more particularly described on Exhibit "B" attached hereto and made a part hereof; and EXCEPT all coal lying in and within three hundred (300) feet of the boundaries of the old mine workings of Quarto Mining Company's Quarto No. 4 Mine more particularly described on Exhibit "C" attached hereto and made a part hereof.

TOGETHER with such mining rights and other rights and privileges pertinent to the tracts set forth on Exhibit "A" (hereinafter called the "Premises").

TO HAVE AND TO HOLD such Premises, unto the said GRANTEE, its successors and assigns, forever, EXCEPT AND SUBJECT as hereinbefore provided, and expressly SUBJECT to all legal highways.



AND the said GRANTOR hereby covenants with the said GRANTEE that said Premises are free and clear from all encumbrances by, from or through the said GRANTOR, and except and subject as hereinbefore provided, and that the GRANTOR will warrant and defend the same to the GRANTEE, only as against the lawful claims and demands of all persons claiming by, through or under the said GRANTOR herein, but against none other.

IN WITNESS WHEREOF, GRANTOR has caused its name to be hereunto subscribed by its duly authorized officers this 27<sup>th</sup> day of June, 2002.

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Signed and acknowledged in the presence of:

NORTH AMERICAN COAL ROYALTY COMPANY, a Delaware corporation

Nancy F. Lemay  
David D. Mitchell

By Thomas A. Koza  
Thomas A. Koza, President

Nancy F. Lemay  
David D. Mitchell

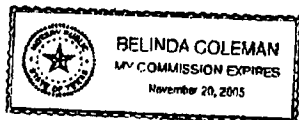
By Andrew S. Good  
Andrew S. Good, Secretary

STATE OF TEXAS,

COUNTY OF DALLAS, SS:

On this the 27<sup>th</sup> day of June, 2002 appeared before me, Thomas A. Koza, who acknowledged himself to be President of North American Coal Royalty Company, a Delaware corporation, and that as such officer being authorized to do so, executed the foregoing instrument for the purposes therein contained by signing the name of the corporation as President.

IN WITNESS WHEREOF, I hereunto set my hand and Notarial seal.



Belinda Coleman  
Notary Public

My Commission Expires: 11-20-05

STATE OF TEXAS.

COUNTY OF DALLAS, SS:

On this the 27<sup>th</sup> day of June, 2002 appeared before me, Andrew S. Good, who acknowledged himself to be Secretary of North American Coal Royalty Company, a Delaware corporation, and that as such officer being authorized to do so, executed the foregoing instrument for the purposes therein contained by signing the name of the corporation as Secretary.

IN WITNESS WHEREOF, I hereunto set my hand and Notarial seal.



Belinda Coleman  
Notary Public

My Commission Expires: 11-20-05

This Instrument Prepared By: Elizabeth L. Glick  
Attorney at Law  
St. Clairsville, Ohio

(HARDCOPY GADDS TRACKS OPEN)

TBR-0485-11

AEC 07978

VOL 0090 PAGE 144

**PARCEL THIRTEEN**  
(PARCEL FORTY-FIVE - LEMUEL READ TRACTS)

Situated in the Township of Sunbury, County of Monroe and State of Ohio.

FIRST TRACT:- The Southeast Quarter of the Southwest Quarter of Section 22, Township 4, Range 4, Containing 40 acres.

SECOND TRACT:- Being a part of the Southeast Quarter of Section 22, Township 4, Range 4, commencing for the same at a center post on the East and West Section line; thence North 80 rods; thence East 3 rods to the center of a road; thence in a Southeast direction with said road 35 rods to the second crossing of the run; thence with meanderings of said run 55 rods and 13 feet to the Section line; thence West 7 rods to the place of beginning, containing 7 acres, more or less, CONTAINING in all 47 acres, more or less.

Together with the free and uninterrupted right of way into, upon and under said land, at such points, and in such manner as may be proper and necessary for the purpose of digging, mining, coking, draining and ventilating, and carrying away said coal, etc. (hereby waiving all surface damages or damages of any sort arising therefrom, or from the removal of all of said coal). Together with the privilege of mining and removing through said described premises other coal belonging to the grantee, his heirs and assigns, or which may hereafter be acquired by said grantee, his heirs and assigns. Said grantors, for themselves, and their heirs and assigns, reserve the right to drill and operate through said coal for oil and gas. It is understood and agreed between the parties hereto that the said grantors and their heirs shall be paid at the rate of \$100.00 per acre for all surface land taken and used for mining said coal by said grantee, his heirs or assigns.

Part of Auditor's Reference No. 24-035003

Prior Deed Reference: Deed Volume 199, Page 364  
Parcel 45  
North American Coal Corporation to  
Nortex Royalty Company

**PARCEL NO. FOURTEEN**  
(PARCEL FIFTY- ISAAC TAYLOR TRACTS)

Situated in the Township of Sunbury, County of Monroe and State of Ohio.

Being a part of Section 24, Township 4, Range 4, and beginning for the same at a point which is distant West 133 rods and 8 links from a stone at the Northeast corner of said Section 24 and South 32 rods and 10 links from the North boundary of Section 24 which said point is the beginning point for said Tract No. 50; thence South 8 3/4° West 11.32 chains; thence South 19.42° chains to a stone; thence East 1.25 chains to a small ravine; thence up said ravine South 3 1/4° East 11.25 chains to middle of the public road; thence with said public road North 53 1/4° East 2.63 chains; thence North 49 1/2° East 2.50 chains; thence North 71° East 1.50 chains; thence North 65° East 1.85 chains; thence North 49° East 2 chains; thence North 35° East 1.50 chains; thence North 47 1/4° East 2 chains; thence South 50° East 1.50 chains; thence South 44 1/4° East 2 chains; thence South 67 1/4° East 1.50 chains; thence South 84° East 1.80 chains; thence North 37 chains; thence West 17.22 chains to the place of beginning, containing 50 acres, more or less.

Together with the free and uninterrupted right of way into, upon and under said land, at such points, and in such manner as may be proper and necessary for the purpose of digging, mining, coking, draining and ventilating, and carrying away said coal, etc. (hereby waiving all surface damages or damages of any sort arising therefrom, or from the removal of all of said coal). Together with the privilege of mining and removing through said described premises other coal belonging to the grantee, his heirs and assigns, or which may hereafter be acquired by said

TDP-000000000000

WUL 0090 PAGE 157

grantee, his heirs and assigns. Said grantors, for themselves, and their heirs and assigns, reserve the right to drill and operate through said coal for oil and gas. It is understood and agreed between the parties hereto that the said grantors and their heirs shall be paid at the rate of \$100.00 per acre for all surface land taken and used for mining said coal by said grantee, his heirs or assigns.

Part of Auditor's Reference No. 24-035005

Prior Deed Reference: Deed Volume 199, Page 364  
Parcel 50  
North American Coal Corporation to  
Norlex Royalty Company

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**PARCEL FIFTEEN**  
(PARCEL FIFTY-FIVE - CHARLES HEADLEY TRACTS)

Situated in Sunbury Township, County of Monroe and State of Ohio.

FIRST TRACT:- The Northwest Quarter of the Southeast Quarter of Section 22, Township 4, Range 4, Containing 40 acres, more or less.

SECOND TRACT:- Also a part of the Southwest Quarter of the Northeast Quarter of Section 22, Township 4, Range 4, beginning for the same at the Southwest corner of the Northeast Quarter or in the center of said Section 22; running thence North 40 rods to a stake; thence East 80 rods to a stake; thence South 40 rods to a stake; thence West 80 rods to the place of beginning. Containing 20 acres, more or less.

THIRD TRACT:- The middle part of the South half of the Southeast Quarter of Section 22, Township 4, Range 4, beginning for the same at the Southeast corner of the Southwest Quarter of the Southeast Quarter of said Section 22, running thence North 87 1/2 degrees West, 8 1/2 chains to a stake in the run-witness, a red oak 12 inches in diameter, leaning North 74 1/2 degrees East, distance 9 links; thence down said run with its meandering North 40 degrees West, 2 1/2 chains; thence North 54 1/2 degrees West, 2.90 chains, thence South 73 1/2 degrees West, 2.87 chains; thence North 56 1/2 degrees West, 40 links to a stake in the run; thence North 3 degrees West, 2.08 chains to a stake in the road; thence with said road North 16 1/4 degrees West, 4.10 chains; thence leaving said road North 6 degrees East, 2.40 chains; thence North 43 1/4 degrees West, 1 1/4 chains to a stake in the road; thence with said road North 10 degrees East, 4.34 chains; thence North 35 degrees West, 4 chains; thence North 22 1/2 degrees West 73 links to the half quarter section line; thence with said line South 87 1/2 degrees East, 17.14 chains to a stake in the center of the road; thence with said road South 41 degrees East, 4.52 chains; thence South 38 degrees East, 1 1/2 chains; thence South 32 degrees East, 4.98 chains; thence South 23 1/4 degrees East, 1 chain; thence South 2 degrees West, 7.27 chains; thence South 12 degrees East, 3.52 chains to a stake in said road and in the section line; thence with said Section line North 87 1/2 degrees West, 4.84 chains to the place of beginning. Containing 38 acres and 30 perches.

FOURTH TRACT:- Being the Northeast Quarter of the Northwest Quarter of Section 22, Township 4, Range 4, Containing 40 acres more or less.

FIFTH TRACT:- The Southeast Quarter of the Northwest Quarter of Section 22, Township 4, Range 4, containing 40 acres, more or less; excepting therefrom the following described premises: commencing for the same 11 rods and 9 links West of the Northeast corner of the Southeast Quarter of the Northwest Quarter of Section 22, Township 4, Range 4, thence West 8 rods; thence South 10 rods; thence East 8 rods to the road; thence North 10 rods to the place of beginning. Containing 1/2 acre.

SIXTH TRACT:- The North half of the Southwest Quarter of the Northeast Quarter of Section 22, Township 4, Range 4, Containing 20 acres, more or less. CONTAINING in all of the said several tracts of land, after above exception, 197.69 acres, more or less.

Addendum to I.B.R., Item 20  
American Energy Corporation

VOL 112 PAGE 161

MEMORANDUM OF LEASE

Instrument  
200300006636

THIS MEMORANDUM OF LEASE (this "Memorandum"), dated as of May 23, 2003, by and between Consolidated Land Company, an Ohio corporation having a mailing address at 29325 Chagrin Boulevard, Suite 300, Pepper Pike, Ohio 44122 (the "Lessor"), and American Energy Corporation, an Ohio corporation having a mailing address at 43521 Mayhugh Hill Road, Township Highway 88, Beallsville, Ohio 43716 (the "Lessee"). The Lessor and the Lessee are parties to that certain Lease Agreement dated February 1, 2002 (the "Lease"), pursuant to which the Lessor leased to the Lessee certain land described on Exhibit A attached hereto and incorporated herein by reference and the improvements located thereon.

1. The name of the Lessor under the Lease is: Consolidated Land Company.
2. The name of the Lessee under the Lease is: American Energy Corporation.
3. The address of the Lessor is: 29325 Chagrin Boulevard, Suite 300, Pepper Pike, Ohio 44122. The address of the Lessee is: 43521 Mayhugh Hill Road, Township Highway 88, Beallsville, Ohio 43716.
4. The date of execution of the Lease is: February 1, 2002.
5. The Lessor leased to the Lessee the land described on Exhibit A attached hereto and incorporated herein by reference and the improvements located thereon.
6. The date of commencement of the term of the Lease was: February 1, 2002.
7. The term of the Lease is for a period lasting until all mineable and merchantable coal has been depleted.
8. This Memorandum is executed for recording. The Lease contains and sets forth other important terms and provisions which are incorporated herein by reference.
9. This Memorandum shall not limit, expand, supplement or modify the Lease, and in the event of any conflict between the terms of this Memorandum and the Lease, the Lease shall control.

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TRANSFER NOT NECESSARY

*Fred F. Bennett*  
FRED F. BENNETT, P.E., S.  
COUNTY ENGINEER 06-16-03

TRANSFER NOT NECESSARY

6-16-03  
*Joseph A. Pappano*  
JOSEPH A. PAPPANO, AUDITOR  
DEPUTY

Prepared By:

NAME: AMERICAN ENERGY CORPORATION  
CO/ST: BELMONT CO., OH (4)

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AEC 07981

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IN WITNESS WHEREOF, the Lessor and the Lessee have duly executed this Memorandum as of the day and year first above written.

LESSOR:

CONSOLIDATED LAND COMPANY

By: 

Name: PETER J. VULTAWIG

Title: PRESIDENT

LESSEE:

AMERICAN ENERGY CORPORATION

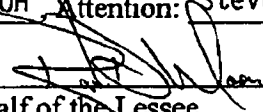
By: 

Name: Robert J. Moore

Title: President

CERTIFICATE OF RESIDENCE

The undersigned certifies that the residence of the Lessee is  
 43521 Mayhugh Hill Road, Beallsville, OH Attention: Steven Hill  
 43716

  
 On Behalf of the Lessee

200300006636  
 Filed for Record in  
 BELMONT COUNTY, OHIO  
 MARY CATHERINE NIXON  
 06-16-2003 01:11 pm.  
 LEASE 30.00  
 Volume 112 Page 161 - 166

Transfer Not Necessary

Date 6-20-03 Sec. 319.202 Completed With  
 Pandora J. Neuhart, Auditor, Monroe Co. Ohio

By SKM Fee 0 Mill 0

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TBR-0425-11

AEC 07982

Official  
 MONROE CO. RECORD OF  
 VOL 104 PAGE 178  
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03 JUN 20 PM 12:11  
 RECORDED June 20, 2003  
 MARTHA LOUISE REID  
 RECORDER FEE \$30.00

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VCL 112 PAGE 163

CERTIFICATES OF ACKNOWLEDGEMENT

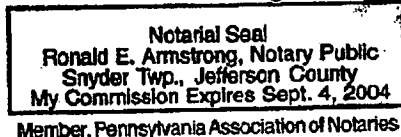
STATE OF PENNSYLVANIA )  
 ) ss:  
 COUNTY OF JEFFERSON )

On this, the 27th day of May, 2003, before me, a Notary Public, the undersigned officer, personally appeared Peter J. Vuljanic, who acknowledged himself/herself to be the President of CONSOLIDATED LAND COMPANY, a corporation organized and existing under the laws of the State of Ohio, and that he/she, as such he, being authorized to do so, executed the foregoing instrument for the purposes therein contained by signing the name of the corporation by himself/herself as President.

IN WITNESS WHEREOF, I hereunto set my hand and official seal.

Ronald E. Armstrong  
 Name: Ronald E. Armstrong  
 Title: Notary Public

My commission expires: 09/04/2004



STATE OF Ohio )  
 ) ss:  
 COUNTY OF Belmont )

On this, the 23 day of May, 2003, before me, a Notary Public, the undersigned officer, personally appeared Robert D. Moore, who acknowledged himself/herself to be the President of AMERICAN ENERGY CORPORATION, a corporation organized and existing under the laws of the State of Ohio, and that he/she, as such he, being authorized to do so, executed the foregoing instrument for the purposes therein contained by signing the name of the corporation by himself/herself as President.

IN WITNESS WHEREOF, I hereunto set my hand and official seal.

Barbara L. Rush  
 Name:  
 Title: Notary Public

My commission expires: 9-01-04



**BARBARA L. RUSH**  
 NOTARY PUBLIC, STATE OF OHIO  
 MY COMMISSION EXPIRES 9-01-04

## EXHIBIT A

Situate in the Counties of Belmont and Monroe, State of Ohio:

Beginning at the SW corner of Section 12, T5N, R5W, Sunsbury Township, Monroe County, Ohio;

Thence northerly with the west section line of said Section 12 to the NW corner of Section 12;

Thence easterly with the north section line of said Section 12 to the SW corner of Section 7, T6N, R5W, Wayne Township, Belmont County, Ohio;

Thence northerly with the west section lines of Sections 7, 8, 9, 10 and 11, T6N, R5W, to the quarter section line of Section 11, T6N, R5W;

Thence westerly with the quarter section line of the adjoining Section 17 to the center of Section 17, T6N, R5W;

Thence northerly with the quarter section line of said Section 17 to the south section line of Section 18, T6N, R5W;

Thence westerly with the south section line of said Section 18 to the SW corner of said Section 18;

Thence northerly with the west section line of said Section 18 to the SE corner of Section 19, T7N, R5W, Goshen Township;

Thence westerly with the south section lines of said Section 19 and Section 25 to the quarter section line of Section 25, T7N, R5W;

Thence northerly with the quarter section line of said Section 25 to the south section line of Section 26, T7N, R5W;

Thence continuing northerly with the quarter section line of said Section 26 to the north section line of said Section 26;

Thence easterly with the north section lines of Sections 26, 20, 14, 8 and 2 to the NE corner of Section 2, T7N, R5W, Goshen Township;

Thence southerly with the east section line of said Section 2 to the NW corner of Section 32, T6N, R4W, Smith Township;



Thence easterly with the north section line of said Section 32 to the NE corner of said Section 32;

Thence southerly with the east section line of Sections 32 and 31 to a point on said east section line which marks the SE corner of Consolidated Land Company's coal ownership in Section 31, T6N, R4W;

Thence westerly, parallel to the south section line of said Section 31, to a point on the section line between said Section 31 and Section 1, T7N, R5W, Goshen Township;

Thence southerly with the east section line of said Section 1 to the NE corner of Section 6, T6N, R5W, Wayne Township;

Thence southerly with the east section lines of Sections 6, 5, 4 and 3 to a point on the east section line of Section 3, T6N, R5W, which point marks the intersection of said east section line of Section 3 with the Exchange Line established by The Youghiogeny and Ohio Coal Company and The Cambria Land Company on May 12, 1959;

Thence southeasterly with said Exchange Line to a point which marks the intersection of said Exchange Line with the east section line of Section 15, T5N, R4W, Washington Township;

Thence southerly with the east section lines of Sections 15, 14 and 13 to the NE corner of Section 18, T4N, R4W, Switzerland Township, Monroe County;

Thence westerly with the north section line of said Section 18 to the NW corner of said Section 18;

Thence southerly with the west section lines of Sections 18, 17 and 16 to the SW corner of Section 16, T4N, R4W;

Thence easterly with the south section lines of Sections 16 and 10 to the quarter section line of Section 10, T4N, R4W;

Thence southerly with the quarter section line of the adjoining Section 9 to the center of Section 9, T4N, R4W;

Thence westerly with the quarter section line of said Section 9, and continuing westerly along the quarter section lines of Sections 15, 21 and 27 to a point on the west section line of Section 27, T4N, R4W, Sunbury Township;

Thence northerly with the west section lines of Sections 27, 28 and 29 to the SE corner of Section 36, T4N, R4W;

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Thence westerly with the south section line of said Section 36 to the SW corner of said Section 36;

Thence northerly with the west section line of said Section 36 to the SE corner of Section 6, T5N, R5W, Sunbury Township;

Thence westerly with the south section lines of Sections 6 and 12 to the SW corner of Section 12, T5N, R5W, the place of beginning.

Excluding from the above described area any coal lands not owned in fee by Consolidated Land Company.

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IBR-0425-11

AEC 07986

Item 1 – Lease rights to parcel 57-22.1, 57-22.2, 57-23, 57-26, 57-28, 57-29, 57-32.1, 57-32.2, 57-35, 57-36.2, 57-57, 57-58, 57-59, 57-66, 57-76, 57-77, 57-95, 57-96, 57-106, 57-107, 57-120, Tract 26, Tract 30, Tract 31, Tract 32, Tract 34, Tract 35, Tract 36, Tract 42, Tract 50, Tract 55, Tract 61, Tract 64, Tract 67, Tract 72, Tract 81, Tract 82, Tract 154.

Together with the free and uninterrupted right of way into, upon and under said land at such points and in such manner as may be proper and necessary for the purpose of digging, mining, coking, draining, ventilating and carrying away said coal, etc. (hereby waving all surface damages or damages of any sort arising there from or from the removal of all of said coal), together with the privileges of mining and removing through said described premises other coal belonging to the Grantee, his heirs and assigns, or which may hereafter be acquired by said Grantee, his heirs and assigns.

Said Grantors, for themselves and their heirs and assigns, reserve the right to drill and operate through said coal for oil and gas.

It is understood and agreed between the parties hereto that the said Grantors and their heirs shall be paid at the rate of one-hundred dollars per acre for all surface land taken and used for mining said coal by said Grantee, his heirs or assigns.

Item 2 – Lease rights to parcel 57-18, Tract 115.

Together with the rights and privileges necessary and useful in the mining and removing of the said coal including the right of mining the same without leaving any support to the overlying strata and without liability for any injury which may result to the surface from the breaking of said strata the right of ventilation and drainage and of access to the mines for men and materials; the shafts or openings for such purposes, however to be in the ravines and waste places upon said land, and not nearer than 165.00 feet of the principal buildings thereon. Any surface ground required for building and operating switches and railroads, shafts, openings, machinery, ways, roads, houses for employees, etc., may also be taken but shall be paid for before being occupied at the rate of one-hundred and fifty dollars per acre, which payment shall thereupon entitle the Grantee, his heirs and assigns, to a deed in fee for the same. Also the right of mining, ventilating, draining and transporting the coal of other lands through the mines and openings in and upon the said land of the Grantors.

Item 3 – Lease rights to parcel 57-112, 57-124, Tract 93, Tract 94, Tract 156.

Together with all the rights and privileges necessary and useful in the mining and removing of said coal including the right of mining the same without leaving any support for the overlying strata and without liability for any injury which may result to the surface from the breaking of said strata, the right of ventilation and drainage and generally freed clear and discharged of any servitude whatever to the overlying land or to

100-0483-13

thence South 75 1/2 degrees East, 2 chains; thence South 48 3/4 degrees East, 1.50 chains; thence South 42 degrees East, 1.88 chains; thence South 82 1/2 degrees East, 2.35 chains; thence South 88 degrees East, 3.35 chains; thence North 67 1/4 degrees East, 3. chains; thence North 41 1/4 degrees East, 2.88 chains; thence North 56 1/4 degrees East, 2.24 chains; to the place of beginning, containing 59 acres, more or less; except one-half acre in the Northeast corner of the Southeast Quarter of said Section 24, it being the Christian Church Cemetery.

PARCEL THIRTY-FOUR - EBENEZER TAYLOR TRACT.

Situated in the Township of Sunsbury, County of Monroe and State of Ohio.

FIRST TRACT:- Being all that part of the Southwest Quarter of the Southwest Quarter of Section 24, Township 4, Range 4, that lies South of a line running diagonally through said Quarter from the Northwest corner thereof to the Southeast corner thereof, containing 19.17 acres, more or less.

SECOND TRACT:- Also the Southeast Quarter of the Southeast Quarter of Section 30, Township 4, Range 4, containing 38 acres, more or less. CONTAINING in all 57.17 acres, more or less.

PARCEL THIRTY-FIVE - T. B. TAYLOR TRACTS.

Situated in the Township of Sunsbury, County of Monroe and State of Ohio.

FIRST TRACT:- Being a part of the East half of the Southeast Quarter of Section 24, Township 4, Range 4, beginning for the same at the Southeast corner of said Section 24; thence with Section line North 87 1/2 degrees West, 10.17 chains to a stone, witness a black walnut tree 10 inches in diameter bearing North 27 1/2 degrees East, distance 8 links; thence North 2 1/2 degrees East, 29.70 chains to a stone in county road; thence with said road South 82 1/2 degrees East, 34 links; thence South 88 degrees East, 3.35 chains; thence North 67 degrees East, 3 chains; thence North 41 1/4 degrees East, 2.88 chains; thence North 56 1/4 degrees East, 2.24 chains to a stake in section line between Sections 18 and 24; thence with said Section line South 2 1/2 degrees West, 35.30 chains to the place of beginning, CONTAINING 32 acres.

SECOND TRACT:- Being a part of Section 24, Township 4, Range 4, and lying in a rectangular shape on the North boundary of said Section; beginning for the same on the North boundary line of said section at a corner of Samuel Freudiger; thence South with Freudiger's line 32 rods 10 links to a stone; thence East 133 rods and 8 links to a stone; thence North 32 rods 10 links to a stone thence West 133 rods 8 links to the place of beginning, CONTAINING 27 acres, more or less. CONTAINING in all 59 acres, more or less.

PARCEL THIRTY-SIX - SAMUEL FREUDIGER TRACTS.

Situated in the Township of Sunsbury, County of Monroe and State of Ohio.

FIRST TRACT:- The East half of the Northwest Quarter of Section 24, Township 4, Range 4, and part of the West half of the Northeast Quarter of said Section, beginning for the same at the center of said section; thence running West 80 rods 10 links to a stone; thence North 155 rods 9 links to the county line to a stone; thence East 111 rods to a stone on the county line; thence South 8 3/4 degrees West, 77 rods 17 links; thence South 77 rods 17 links to a stone; thence West 20 rods 14 links to the place of beginning, CONTAINING 100.47 acres, more or less.

SECOND TRACT:- All the portion of the East half of the Southwest Quarter of Section 24, Township 4, Range 4, lying North of the center of the public highway, except a narrow strip off the North end of said tract 3 rods and three inches wide, which strip was heretofore deeded by said Monroe to said Freudiger, containing 3 acres, more or less, hereby intended to be conveyed.

THIRD TRACT:- Also all the following described tract. being a part of the West half of the

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the place of beginning, CONTAINING 54.97 acres. CONTAINING in all 135.31 acres, more or less.  
PARCEL FORTY-ONE - HENRY STRAUGH TRACTS.

Situated in the Township of Switzerland, County of Monroe and State of Ohio.

The East half of the Northeast Quarter of Section 10, Township 4, Range 4, Containing 30.63 acres.

Also the South part of the East half of the Southeast Quarter of Section 11, Township 4, Range 4, beginning for the same at the Southwest corner of said half quarter; thence with the Section line South 87 1/4 degrees East, 17.40 chains to a stone; thence North 37 degrees West, 10.64 chains to a double ash tree; thence North 28 3/4 degrees West, 5.89 chains; thence North 42 1/4 degrees West, 7.68 chains to a stone in the county road; thence with said road North 52 degrees East, 6 chains; thence North 18 3/4 degrees East, 3 1/2 chains; thence North 5 1/4 degrees East, 1.80 chains; thence North 97 links to a stone in said road; thence North 87 1/4 degrees West, 9.18 chains to a stone in the line of the West side of said half Quarter; thence South 2 3/4 degrees West, 27.50 chains to the place of beginning, Containing 25 1/2 acres.

Also the East part of the Northwest Quarter of the Northeast Quarter of said Section 10, beginning for the same at the Northeast corner of the Northwest Quarter of the Northeast Quarter of said Section 10; thence West 20 rods; thence South 40 rods; thence East 20 rods; thence North 40 rods to the place of beginning, Containing 5 acres. CONTAINING in all 111.13 acres.

EXCEPTING therefrom the following described tract of land: The same being a part of the East half of the Northeast Quarter of Section 10, Township 4, Range 4, commencing in the road 25 1/2 rods from the Southeast corner of the above named tract or piece of land; thence running West to the county road leading past Jacob Tachappot's premises to Sunfish Creek, 27 rods; thence North 16 feet; thence East 27 rods; thence South 16 feet to the place of beginning, Containing 27 rods, more or less. Leaving 110.96 acres, more or less.

PARCEL FORTY-TWO - MORGAN GATES TRACTS.

Situated in the Township of Sunbury, County of Monroe and State of Ohio.

FIRST TRACT: - Being a portion of the Southeast Quarter of Section 24, Township 4, Range 4, beginning for the same at a stone in the South boundary line of said Section, 9.08 chains East of the Southwest corner of said Quarter Section; thence North 2 1/4 degrees East, 29.41 chains to a stone in county road; thence with said road North 53 1/4 degrees East, 10 links; thence North 43 1/2 degrees East, 2.5 chains; thence 71 degrees East, 1.5 chains; thence North 65 degrees East, 1.85 chains; thence North 35 degrees East, 1.50 chains; thence North 49 degrees East, 2 chains; thence North 47 1/2 degrees East 2 chains; thence South 50 degrees East, 1.5 chains; thence South 44 1/2 degrees East, 2 chains; thence South 67 1/4 degrees East, 1.5 chains; thence South 84 degrees East, 1.80 chains; thence South 75 degrees East, 2 chains; thence South 48 3/4 degrees East 1.5 chains; thence South 42 degrees East, 1.88 chains; thence South 82 1/2 degrees East, 2.01 chains to a stake in county road, the corner of E. Taylor's land; thence South 2 1/2 degrees West, 29.70 chains to a stone in section line; thence North 38 degrees West, 20.96 chains to the place of beginning, Containing 68 acres.

SECOND TRACT: - The same being a portion of the West half of the Southeast quarter of Section 24, Township 4, Range 4, beginning for the same at the Southwest corner of said Quarter Section; thence with said Quarter Section line North 2 1/4 degrees East, 14.32 chains; thence South 88 degrees East, 9.08 chains; thence South 2 1/4 degrees West, 14.32 chains; thence North 88 degrees West 9.08 chains to the place of beginning, Containing 13 acres, more or less.

THIRD TRACT: - Being a portion of the West half of the Southeast Quarter of Section 24, Township 4, Range 4, beginning for the same in the section line running North and South through the center of said Section 24, 14 chains 32 links North from the Southwest corner of said Quarter Section; thence with said Quarter Section line North 2 1/4 degrees East, 14.83 chains to the center of the county road; thence with said road South 51 1/2 degrees East, 2 chains; thence South 83 degrees East, 3 1/2 chains; thence South 87 1/2 degrees East, 1.64 chains; thence North 88 3/4

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AEC 07989

21. Will operations conducted within this IBR affect land within three hundred feet of any public building, school, church, community or institutional building or public park?

Yes ☐ No ☒ If "yes," submit proof of valid existing rights.

22. Will operations conducted within this IBR affect land within one hundred feet of a cemetery?

Yes ☐ No ☒ If "yes," submit proof of valid existing rights or appropriate authorization to relocate the cemetery.

23. Is this IBR application area within an area designated unsuitable for coal mining operations or under study for designation in an administrative proceeding?

Yes ☐ No ☒

If "yes," did the applicant make substantial legal and financial commitments in this IBR application area prior to January 4, 1977? Yes ☐ No ☐ If "yes," provide documentation supporting the assertion that the commitments were made prior to January 4, 1977.

24. In order to address the nature of cultural, historic and archeological resources, submit Archeology - Surface.

25. Describe the uses of the land existing at the time of the filing of this IBR application area and provide a map delineating the area and acreage of each land use.

**The proposed I.B.R. area is composed of 1.3 acres of undeveloped land and 5.8 acres of cropland. See Addendum to I.B.R. Application, Item 25, Land Use Exhibit Map.**

26. Describe the use of the land, including the creation of permanent impoundments, that is proposed to be made of the land following reclamation, including information regarding the utility and capacity of the reclaimed land to support a variety of alternative uses. Provide a map that delineates the area and acreage of each proposed land use, and submit assurance of maintenance for each permanent impoundment.

**The use of the land following reclamation will be pasture land and undeveloped land. See Addendum to I.B.R. Application, Item 25, Land Use Exhibit Map.**

OHIO DEPARTMENT OF NATURAL RESOURCES  
DIVISION OF MINERAL RESOURCES MANAGEMENT

ARCHEOLOGY - SURFACE

1. Applicant's Name **American Energy Corporation**

Address **43521 Mayhugh Hill Road**

City **Beallsville** State **Ohio** Zip **43716**

2. Contact Person **Jack A. Hamilton & Assoc., Inc.** Phone **740-968-4947**

3. Location and Acreage Information

County **Monroe** Township **Sunsbury**

Section **24** Lot(s) **T-4, R-4**

USGS Quadrangle **Cameron** Acreage **7.1**

4. Application Map Attached: (area described in 3 above is to be outlined on the map)

5. Previous Disturbance:

☐ present; ☒ absent within application area only (Note: previous disturbance is any type of natural or human made disturbance to the topsoil and subsoil in the application area prior to submittal. Examples include, but are not limited to, slides, severe erosion, previous mining activities, clear cut logging, recreational activities, etc., but not agricultural plowing and discing.)

If previous disturbance is present, list below and clearly delineate the extent of each type of disturbance on the application map to be sent to the SHPO by the division. Attach addendum, if necessary.

Type of Disturbance	Date Occurred	Percent of Application	Map Symbol

## 6. Current Land Use: (describe land use and percent of land in that use)

Agricultural: **82% (Cropland)**Residential: **17%**Mining: **0%**Pasture: **0%**Secondary Forest Growth: **0%**Has area been clear cut logged? Yes ☐, No ☒If "yes," indicate approximate date(s) of logging. **1980**Other: **Undeveloped: 18%**

## 7. Historic and Prehistoric Structures:

Definitions

A historic or prehistoric structure is a work made up of interdependent and interrelated parts in a definite pattern of organization. Constructed by humans, and 50 years or older, it is usually an engineering project.

Types

Historic structures include, but are not limited to dwellings, buildings, barns, farmstead outbuildings, bridges, culverts, churches, schools, halls, iron furnaces (and associated buildings), canals, forts, abandoned coal mine buildings, mine entrances, tipples and related structures, etc.

Prehistoric structures include, but are not limited to, earthworks, mounds, rockshelters, etc.

List all known historic and prehistoric structures below and locate each one on the application map to be sent to the SHPO including corresponding labeled black and white, front and rear photographs of each structure. Attach addendum, if necessary.

Structure Type	Construction Date	Map Reference	Photo # Front	Photo # Rear
<b>None</b>				



8. Previous Historic and/or Archeological Surveys: (describe any surveys known to applicant on the application area or adjacent areas)

Application area: **Phase I Survey performed in March 2006**

Adjacent areas:

9. **SHPO please send this form to:**  
Division of Mineral Resources Management  
Attn: Division Archeologist  
2045 Morse Road, Building H-3  
Columbus, Ohio 43229-6693

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**FOR USE BY THE STATE HISTORIC PRESERVATION OFFICE ONLY**

(check appropriate space)

- A. ☐ This is a recommendation for an archeological survey of the application based on the following reasons (attach addendum, if necessary):

A SHPO review of the area shown on the application map has provided a listing below of all known historic and prehistoric properties listed and eligible for listing on the "National Register of Historic Places" and known historic and prehistoric sites on the application area and adjacent areas (in a 1.5 mile radius). The listing includes, when appropriate, those historic and prehistoric structures identified by the applicant in items 7 and 8 above.

#### Listed and Eligible National Register Sites

Site Name (#)	Type	Application Area	Adjacent Area

#### Known Historic and Prehistoric Sites

Site Name (#)	Type	Application Area	Adjacent Area

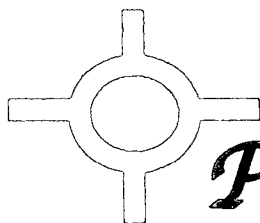
- B. ☐ A SHPO review of the area shown on the application map and information contained in this form finds that the proposed mining does not have a reasonable probability of affecting any properties listed or eligible for listing on the "National Register of Historic Places." Therefore, no further coordination will be necessary with this office unless the scope of the application area changes.

State Historic Preservation Officer \_\_\_\_\_

SHPO # \_\_\_\_\_

Date \_\_\_\_\_

11/11/06 09:00 AM



*Professional Archaeological Services Team*

**Phase I Cultural Resource Management Survey of an 2.8 ha (6.9 a.)  
Incidental Boundary Revision for Permit Application #D-0425 in  
Sunsbury Township, Monroe County, Ohio**

Craig S. Keener  
Benjamin Burcham

March 2005



"Interpreting the Past, Envisioning the Future"

11-21-05 04:11 PM

**Phase I Cultural Resource Management Survey of an 2.8 ha (6.9 a.) Incidental  
Boundary Revision for Permit Application #D-0425 in Sunbury Township,  
Monroe County, Ohio**

**Craig S. Keener, Ph.D.**

And

**Benjamin Burcham  
(Archaeological Research Consultants)**

Prepared for:

**Jack A. Hamilton & Associates Inc.  
342 High Street  
Box 471  
Flushing, Ohio 43977**

**Lead Agency: Ohio Department of Natural Resources, Division of Mineral  
Resources Managment**

**Professional Archaeological Services Team  
264 West Main Street  
Plain City, OH 43064**

**Phone: 614.733.0987 Fax: 614.873.4752 E-mail: [pasteam@earthlink.net](mailto:pasteam@earthlink.net)**



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Craig S. Keener P.I.

3.17.06

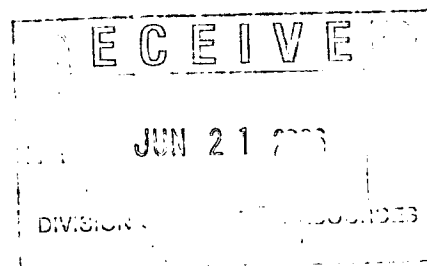
## **Abstract**

Professional Archaeological Services Team conducted a Phase I Cultural Resource Management (CRM) survey of an 2.8 ha (6.9 a.) Incidental Boundary Revision for Permit Application (#D-0425) in Sunbury Township, Monroe County, Ohio. The proposed survey was conducted in March under at the request of Jack A. Hamilton and Associates, Inc. The project area is related to a proposed haul road and substation/air shaft to be built by the American Energy Corporation. The survey recorded and evaluated the project under Section 106 guidelines.

The project area is an irregular shaped parcel located south of State Route 556 (SR 556). The project is situated on steep side of a ridgetop and on a portion of a small toe ridge/bench. The project is represented by overgrown former pasture land. Slope ranges from 11 to 25%. The project is located in the Unglaciaded Appalachian Plateau. The test area contains two soil types: Guernsey-Westermoreland (GwD2) and Zanesville (ZnC) silt loam. Shovel testing in the testable portions of the project area and visual inspection found no archaeological sites. Consequently, no further cultural resource work is recommended.

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## Figures

1. Map of Ohio Political Boundaries showing the project area.
2. Portions of the USGS 1960 (PR 1972) and 1961 (PR 1975) *Woodsfield Quadrangle, Ohio, 7.5 Minute Series (Topographic)* maps showing the location of project area.
3. Portion of 1898 *Caldwell's Atlas of Monroe County, Ohio* (Caldwell 1875) showing the estimated location of the project area.
4. Portion of the 1905 *Woodsfield, Ohio 15 Minute Series (Topographic)* map showing the general location of the project area.
5. Fieldwork schematic showing the location of shovel test units, datum location, sloped areas, and the project area boundary. (Shovel test units are not to scale)

## Plates

1. View of the project area facing southeast from State Route 553 (the northern end of the haul road).
2. View of the southern portion of the haul road corridor, view facing north from approximately station 13+00.
3. View of the haul road corridor facing northwest from approximately station 8+50.
4. View of the project area, facing west from the southern terminus of the haul road, showing the landform that was tested.
5. Typical shovel test unit excavated in the project area.

## **Introduction**

Professional Archaeological Services Team conducted a Phase I Cultural Resource Management (CRM) survey for a proposed 2.8 ha (6.9 a.) development in Sunbury Township, Monroe County, Ohio (Figures 1-3). The project is located in Section 24. The proposed survey was conducted at the request of Jack Hamilton & Associates, Inc. The survey is investigating the project under Section 106 requirements as they pertain to cultural resources.

The proposed irregular shaped project involves an Incidental Boundary Revision of Permit Application #D-0425 for a proposed haul road and substation/air shaft to be built by the American Energy Corporation (Plates 1-4). The project is situated in a rural area mainly represented by woods, pasture, and open agricultural field areas. The project itself is represented by an overgrown former pasture land.

The project is represented by steep side slope of a ridgetop and a portion of a small toe ridge or bench. Slope ranges from 11 to 25%.

The project area is located in the Unglaciaded Appalachian Plateau, on colluvium derived from local bedrock (Pavey et al. 1999). The project possesses two soil types: Guernsey-Westermoreland (GwD2) and Zanesville (ZnC) silt loam represent the project area. The project is located in a rural setting to the west of the Village of Bingham.

Due to the lack of surface visibility in the project subsurface test units and visual inspection were utilized. Dr. Craig Keener served as the principal investigator for this project, while the field testing was conducted by Benjamin Burcham, M.A. from Archaeological Research Consultants. The report and figures were completed by Dr. C. S. Keener, Benjamin Burcham, and Kevin Nye.

## **Background Investigation**

An archival review was conducted for the project area and surrounding study area, which is defined as a 3.2 km (2 mi.) radius around the project area. The archival review is conducted in order to ascertain what archaeological and/or historical resources were previously located within or around the project area. This information can then be used to help formulate research questions/hypotheses and appropriate testing methodologies for the project area. The archival research enables investigators to identify potential regional patterns in archaeological assemblages or architectural styles and aids in determining a building or site's significance. Archival resources that were analyzed included historic atlases and maps, archaeological and architectural inventories, the National Register, and county histories.

Mills' (1914) atlas was consulted to determine if any prehistoric earthworks/mounds, villages or burials were reported in the project area or study radius.



Mills hand plotted most of these sites on county maps from the recollections of postmen or local individuals who knew or had heard of such sites in these vicinities. The vast majority of these sites were not field checked, so the accuracy of a given site's position or its actual existence is questionable unless field checked. Mills' atlas is a useful planning tool, however, since it is reliable in giving a researcher a general idea of where earthworks/mounds may be located. Analysis of the Monroe County Mills' maps showed no sites within or immediately adjacent to the project area.

The USGS 1961 (PR 1975) *Woodsfield* and 1960 (PR 1972) *Cameron Quadrangles, Ohio, 7.5 Minute Series (Topographic)* maps, of the Ohio Archaeological Inventory (OAI), identified no archaeological sites within the project area. One archaeological site, 33Bl344, was recorded in the study radius. This site is a 19<sup>th</sup> to 20<sup>th</sup> century historic scatter.

No CRM surveys overlap the project area. Two CRM surveys have occurred in the study radius (McDaniel 1988; Weller 2003). The Weller survey identified the archaeological site in the study radius.

Examination of the OHI files identified no recorded buildings in the project area.

Examination of the NRHP files failed to identify any buildings, sites or structures within or adjacent to the project area.

The Monroe County histories indicate no historical events have occurred at the test locations or that are associated with the historical property owners (Caldwell 1898; Hardesty 1882).

The 1898 *Caldwell's Atlas of Monroe County, Ohio* was analyzed and shows no structures lie in or adjacent to the project area (Caldwell 1898) (Figure 3). The property owner appears to be a Morgan Gates.

The 1905 *Woodsfield, Ohio 15 Minute Series (Topographic)* map (Figure 4), shows no structures inside or adjacent to the project.

The USGS 1961 (PR 1975) *Woodsfield* and 1960 (PR 1972) *Cameron Quadrangles, Ohio, 7.5 Minute Series (Topographic)* maps shows no structures inside or adjacent to the project area (Figure 2).

## Cultural History

The subsequent text is a summary of cultural developments that have occurred over time in the Ohio Region. This description of various cultural manifestations is presented in a broad and regional manner in order to provide an interpretative framework from which general research questions/hypotheses can be applied to a project area.

During the end of the Pleistocene the glacial retreat produced drastic changes in regional faunae and florae populations. Most of the so-called "megafauna" became extinct and broad regional vegetational changes occurred as the temperature increased (Shane 1994). The Native American groups to first inhabit the Ohio region had to cope with the rapidly changing subarctic climates. Some have argued (e.g., Martin and Klein 1984) that Paleoindian populations relied extensively or exclusively on hunting big game animals such as the mammoth, mastodon, and herd animals (e.g., long horned bison). Recent findings of a mastodon at the Burning Tree site in Licking County support this premise that Paleoindian populations were big game hunters (Fisher et al. 1994). However, while there is little doubt that Paleoindian populations hunted big game, this was not the only food resource option. Others have suggested that Paleoindian populations relied more extensively on smaller game animals and plant resources, employing a more balanced subsistence strategy (Bamforth 1988; Lepper 1988). Consequently, Paleoindian populations in Ohio have been viewed as highly mobile/nomadic and exhibiting four general settlement types: 1) food procurement and processing, 2) large workshops; 3) small workshops; and 4) flint processing. Sites are typically indicative of transitory behavior and reflect seasonal use of available animal and plant resources.

The artifact assemblage of the Paleoindian Period (14,000 B.C. to 8,000 B.C.) is characterized by the Clovis projectile point types, steep edged scrapers, blades, and utilized flakes and tools (Justice 1987; Tankersley 1994). Although not well documented for eastern North American, bone and wood tools were presumably commonly used as well. The Clovis point is a fluted lanceolate with a ground concave base and parallel or slightly convex sides. Unfluted Plainview types are also common to this period, but infrequently reported in Ohio.

Most reported Paleoindian sites in Ohio are surface finds recovered from elevated rises, hill/ridge tops, or along terraces within valley floors (Prufer and Baby 1963). Recent findings in the past two decades have resulted in additional information on site composition. Along the Ohio River, excavations at the Manning site revealed three distinct Late Paleoindian occupations that exhibited tool clusters and possible residential and/or activity areas (Lepper 1994). Evidence of hunting and/or hunting locations have been found near remnant glacial ponds, bogs, or along river valleys (e.g., Burning Tree Mastodon, Nobles Pond, and Sandy Springs) (Dancey 1994). Research on quarries and flint acquisition in Central Muskingum River valley (Lepper 1986; Tankersley 1990) and the Midwest as a whole has produced new information on land use patterns and workshop sites. These sites and/or investigations have produced significant information,

nonetheless, the picture of the Paleoindian Period within Ohio is incomplete and the scarcity of recorded sites make any newly identified Paleoindian site of potential interest.

Cultural developments in the Archaic Period reflect the impact of post-Pleistocene climatic changes in which moderate and temperate climates replaced the subarctic conditions of the glacial period. A wider range of natural resources became available, and based on the presence of ground stone tools, it appears that plant foods became a significant part of subsistence. Populations appear to become less transitory, with sub-regional lithic assemblages composed of greater percentages of local flint resources. The Archaic spans a broad time period and is broken up into three stages: Late, Middle, and Early.

The Early Archaic Period (8,000-6,000 B. C.) is marked by a greater variety of tools, in particular projectile points. Thebes, Kirk, and Palmer point types are just a few of many new variations being created during this period (Justice 1987). Most of these points are basally notched, bifurcates, or corner notched, and many exhibit ground bases, beveled blades, and/or serrated edges. Early Archaic sites are more commonly found on outwash terraces within the river and stream valleys of the Till Plains and Allegheny Plateau. The predominance of projectile type tools may indicate a greater reliance on hunting strategies, however, seasonal exploitation of plant foods and use of river biomes certainly were important aspects of subsistence. Other tools that characterize this period include end scrapers, utilized flakes, and some ground stone tools.

Little is known about the Middle Archaic Period (6000-3000 B. C.) in Ohio. Few undisturbed sites have been recorded. The climate continued to change during this period and the majority of Middle Archaic sites are found on terraces and floodplains of stream valleys (Genheimer 1980). Projectile points of this era are generally represented by heavy stemmed or side notched varieties. There is also an apparent increase in ground stone tools such as atlatl bannerstones (both cylindrical and winged), slate pendants, and full grooved axes.

The Late Archaic (3,000-1,000 B.C.) represents a period of diversification and localization of pre-Woodland populations (Dragoo 1976; Pratt 1981). Tool assemblages are typically composed of flint from nearby (local) outcrops. A wide array of drills, scrapers, knives, and groundstone items are associated with this assemblage. Projectile points of this period are generally crude, stemmed types (e.g., McWhinney), but include many varieties. Burial goods, such as bannerstones and other slate goods, and flint items suggest the development of more elaborate ceremonial customs that would continue to grow in the Woodland period. The presence of some exotic goods, such as flint from distant outcrops suggests the development of long distance trade. Sites are usually large in size and generally reflect continual use of an area. The variety of site types is indicative of a specialization to seasonal exploitation of localized environments and an increase in reliance on plant foods that would carry over into the Woodland Period, resulting in the domestication of several wild species. Site locations along terraces suggest that during the spring and summer aquatic and plant resources in river valleys were heavily utilized, while during the fall and winter the uplands were focused upon for

nut harvest (e.g., hickory and walnut) and wild game hunting. Vickery (1980) has suggested that two types of settlements occurred during this period, the local base camp affiliated with a restricted territory, and larger scale camps indicative of the use of regional resources.

The Early Woodland Period (1,000 B.C. to 100 B.C.) represents a continuation and elaboration of cultural manifestations developed in the Late Archaic. The Early Woodland Period is set apart from the Archaic by the intensification of its mortuary practices with the construction of burial mounds and extensive exchange networks for burial/ritual goods, use of ceramic vessels, and the use of indigenous or non-indigenous domesticated cultigens such as chenopodium and sunflower (Dragoo 1976). The introduction of pottery is important because it suggests the greater reliance on food processing and storage (e.g., for nuts), and may indicate a greater emphasis on gathering of plant foods versus hunting. This change also marks a shift towards the development of cultivation and later agriculture which would occur in the Late Woodland. Pottery first appears in the Ohio Valley between 1,000 to 100 B.C. and is characterized as plain surfaced, thick, grit tempered and typically possessing a flat based and conical vessel form (e.g., Fayette Thick type).

Early Woodland settlements are characterized by small hamlet/village sites generally located on low terraces and floodplains of stream valleys. Little work has been conducted at these sites. Evidence of circular structures has been found at several sites, suggesting semi-permanence of the inhabitations. Projectile points found at Early Woodland sites are generally large ovate-based or stemmed varieties (Justice 1987). The mortuary complex of Adena sites is characterized by conical mounds generally small in size. Mounds usually are found isolated but may be accompanied by surrounding enclosures. Burial mounds are typically found along high terrace or bluffs overlooking stream valleys of the Ohio River. Examples of large Early Woodland mounds include the the Sentinel Mound (Harrison County), the Miamisburg Mound (Montgomery County), the Adena Mound (Ross County), and the Cemetery Mound (Washington County). Burials are often, but not always, placed in the center of the mound floors. Some burials are lined with logs, and often contain exotic goods such as high quality flint projectile points, copper bead necklaces, and slate and ground stone items.

The Middle Woodland period (100 B.C. to A.D. 400) exhibited a continuity of Early Woodland traits with similar habitation and mortuary site locations along major stream valleys. Subsistence strategies continued to rely heavily on food supplies attained from hunting and gathering (e.g., nut varieties, deer, berries, fish, seeds, and small mammals). There is however, an apparent greater reliance on seed food such as chenopodium, sunflower, and maygrass, known as the Eastern Agricultural Complex (Wymer 1996). Corn also makes its first appearance during this period, but only in small quantities, indicating it was not a major part of the diet.

Settlement patterns of the Middle Woodland appear to center around small hamlets, which in turn appear to be grouped near earthwork complexes (Pacheco 1996). Information on "hamlets" is still formative, however, excavations at such notable sites as

Jennison Guard (Blosser 1996), Murphy (Dancey 1991, 1992) and Twin Mounds (Fisher 1969, 1970a) have found that they are located in larger stream valleys and are the focus of many specialized activities (e.g., bladelet manufacture). Secondary encampments have been found in the uplands, indicating exploitation of seasonal plant (e.g., nuts) or animal (e.g., deer) resources. Ceremonial complexes were also the scene of possible communal activities, and rectangular structures and workshop areas have been found at many of the sites (e.g., Seip and Ft. Ancient [Connolly 1996]). However, no clear evidence of villages or hamlets have been found within the earthwork complexes themselves (Dancey 1996; Prufer 1965).

A distinction from the Early Woodland is the development of extensive and elaborate geometric earthwork complexes. Most archaeological work has been conducted upon these earthworks and associated mounds (e.g., Shetrone 1926). Some of the more notable Middle Woodland complexes include Hopewell, Mound City, High Banks, Newark, Seip, Harness, Stubbs, and Marietta. Hill top enclosures tend to be more common in the southwest Ohio area and are exemplified by such sites as Fort Ancient, Pollock, Fort Hill, and Miami Fort. From these sites excavations have revealed an elaborate mortuary-oriented culture, with evidence of preburial and postburial activities, and concentrated and large amounts of exotic grave goods, indicating well established trade connections or long distance acquisition. While Middle Woodland populations have been viewed as egalitarian the focus of exotic goods in the earthwork complexes indicates that some individuals did possess higher status.

The artifact assemblage of the Middle Woodland is dependent on its context. Exotic trade goods are generally concentrated in mortuary sites, while more utilitarian artifacts such as ceramics and lithic workshops, are located at hamlets or encampments. Middle Woodland ceramics are typically manufactured with grit temper and possess cordmarked or plain exterior surfaces. Some ceramics are decorated with stamped, punctated or zoned designs, with a few rare items containing iconography (Greber and Ruhl 1989). Vessels generally have thinner walls than the Early Woodland ceramics, and are globular in form. Lithic artifacts include bladelets, polyhedral cores, expanding base projectile points (e.g., Snyder type), drills, and a variety of ground stone tools. The mortuary type items, also found in workshops, include materials found over long distances from several regions of North America. These include chlorite and mica from the Southeast, in the southern Appalachians; marine shell, alligator and shark teeth, and turtle shell from the Gulf Coast; obsidian from the Yellowstone area in the Rockies; copper from the Great Lakes; silver from Ontario; meteoric iron; and non-local fine quality flint from North Dakota (Knife River), and southeast Indiana (Harrison County [Indiana Hornstone] flint). Other items made from non-local or local material include platform pipes, copper axes/adzes and plates, copper skull caps, copper and silver earspools, large predatory animal canine teeth, and leaf shaped flint cache blades (Griffin 1978).

The Late Woodland period (A.D. 400 to A.D. 900) is characterized by the continuation of some Middle Woodland traits such as similar tool complexes (e.g., Chesser type points, ceramic manufacture, and continuation of exotic trade goods in some

areas). However, the large ceremonial complexes of the Middle Woodland do not occur in the Late Woodland, changing instead to rather small burial mounds and/or stonebox graves. Distinct subregional expressions also appear during this period, such as Cole and Newtown (Baby and Potter 1965; Prufer and McKenzie 1966). Ceramic assemblages in southern Ohio are typically cordmarked, and either contain chert or limestone tempering agents (e.g., Peters and Chesser series). In central Ohio ceramics are generally cordmarked and grit tempered (e.g., Cole series). The lithic assemblage is characterized by Chesser-side notched points, Raccoon notched, triangular side-notched points, and triangular points (Justice 1987). Ground stone tools such as three quarter groove axes, pestles, and metates are common. There is also an increase of representative bone tool artifacts (e.g., awls, punches, etc.) during this period (e.g., Philo site).

Settlement patterns change during the Late Woodland, with populations aggregating into village sites typically located within major river valleys along the base of bluffs or terraces. The amalgamation of people into villages appears to correspond with the introduction of corn, bean, and squash agriculture. The greater reliance on cultivated plants required a larger work force for planting and harvesting, making a permanent settlement more advantageous. The advent of agriculture also corresponds with an apparent increase or threat of warfare. Large groupings of people provided better defensive capabilities to a community. Towards the end of the Late Woodland, villages began to be placed on more easily defendable terrain and palisades began to be constructed. It also appears that upland locations were selected for temporary encampments in the autumn and winter in order to exploit seasonal food resources.

The Mississippian/Late Prehistoric period (A.D. 900 to 1685) represents a continuation of most of the cultural manifestations that occurred in the Late Woodland. Settlements are still found in river valleys, although villages tend to be situated on more highly defendable terrain such as bluff or terrace edges. They also tend to be larger, and many are ringed by defensive palisades, suggesting that warfare was a factor in site selection. There is an increased reliance on corn agriculture and consequently, populations become more sedentary. Ceramic assemblages contain both grit and shell tempered varieties. Lithic assemblages are dominated by triangular points and knives. There is also extensive use of bone and shell for tools or ceremonial items. Some decorative motifs on shell artifacts or ceramics suggest influence from both southeastern and Mississippian cultures (e.g., weeping eye motif at Ft. Ancient sites) (Griffin 1978). Several distinct sub-regional groups (e.g., Ft. Ancient, Monongehela, Whittlesey, and Western Basin) develop across Ohio, with each containing unique developmental phases.

The project area falls within an area affiliated with Monongehela assemblages.

The Historic Period begins in the Ohio region during the early 1680s with recorded accounts of Iroquois war parties driving out indigenous tribes of the area. Little historical information is known about the indigenous seventeenth century inhabitants of the Ohio region or the specifics of the Iroquois intrusion into this area, except that the Iroquois were successful in dispersing or defeating several tribes from this region, including the Shawnee, Erie, and Fire Nation (Keener 1998). Eastern Ohio remained

vacant between 1685 and 1720 and served as a hunting area for the Iroquois and various tribes (Ottawa, Mississauga, and Wyandot) located near Detroit (O'Callaghan 1856; Wheeler-Voegelin 1974).

The first recorded evidence of resettlement of the eastern Ohio region is reported in the 1720s as Iroquois, Delaware, and Shawnee are reported living along the Upper Ohio River and its tributaries. No major villages were established in Monroe County, except for temporary encampments along the Ohio River and creek valleys. The county was mainly used as a hunting area until the early 1800s (Tanner 1987; Wheeler-Voegelin 1974). Eastern Ohio was the scene for many conflicts between Euroamericans and Indians during the second half of the eighteenth century. Several skirmishes occurred between the Indians and early American settlers during the 1770s, particularly along Captina Creek during Lord Dunmore's War. After the Greenville Treaty of 1795, all Indian claims to this area were relinquished.

Monroe County was organized in 1813. One of the earliest settlers was Philip Witten who arrived in the county in 1791. Most of the early settlements were along the Ohio River at the mouths of Sunfish, Clear Fork, and Opposum Creeks and the Little Muskingum River. Most of the early settlers were farmers and agriculture was the dominant economy in the nineteenth century. In 1819 a number of German and Swiss families settled in the county and today the county has a sizable Amish population. Agricultural products of the county include wheat, corn, oats, potatoes, livestock, and cheese production (Hardesty 1882).

Indian trails and the Ohio River served as major transportation routes during the early 1800s. The first railroads built in the county stimulated agricultural production and coal mining. Woodsfield, is the county seat. Coal mining and gas/oil production are important industries.

Information about Sunbury township was limited. The township was organized in 1819. Early settlers arrived in the township as early as 1809. The Village of Beallsville, is the economical focal point of the township. The town has several mercantile stores that serve the local populace (Hardesty 1882).

## **Environmental Section**

### **Physiography**

Monroe County is situated within the Unglaciaded Allegheny Plateau. The topography is represented by steep and heavily dissected ridges. Underlying bedrock is represented by limestone, sandstone, shale, coal, iron ore, and clay, of the Pennsylvanian and Permian systems. Major drainages of the county include Clear Fork Creek, Sun Fish Creek, Captina Creek, Opposum Creek, the Little Muskingum River, and the Ohio River (Pavey et al. 1999; USDA, SCS 1974).

The project area is located in the north central portion of Monroe County. The elevation within the project ranges from 365.7 m to 384 m (1200' to 1260'). The project area is represented by steep sideslope of a ridgetop and portion of toe ridge/bench.

### **Soils**

Soil types in the project area are important, for they can help determine the likelihood/potential for cultural activities or archaeological sites. Soil types also help us understand the process of taphonomy and how sites are preserved or changed from depositional factors, erosion, or soil acidity. A total of five soil types are located within the two test areas and listed below:

Guernsey-Westmoreland (GwD2) silt loam, 12 to 18% slope, moderately eroded  
Zanesville (ZnC) silt loam, 6-12% slope

Most of these soils are moderately to very well drained. Steep slope (>15%), and in particular eroded soils, are a major concern (USDA, SCS 1974).

### **Fauna**

The clearance of most of Ohio's presettlement forest resulted in the extinction of many species which could have been used by prehistoric populations. The most useful species found in archaeological assemblages of prehistoric and early Euroamerican populations include deer, elk, bison, black bear, wolf, beaver, turkey, passenger pigeon, mountain lion, ruffed grouse, cottontail rabbit, squirrel, water fowl, fish, and mussels. This variety of faunal resources supplied the seasonal food needs of indigenous populations and provided raw materials for tools (e.g., bone awls, shell hoes) and/or ceremonial artifacts (e.g., canine teeth, deer antler skull caps) (Cleland 1966).

### **Flora**

Presettlement vegetational patterns in Ohio have changed dramatically with the arrival of Euroamerican populations because of the impact of agriculture and industrial and urban developments. Large swaths of indigenous forests were cut down for use as lumber, fuel for the coal and iron industries, a source for heating (e.g., fire), and to clear fields for agricultural uses. Marshes, wetlands and prairies were also altered by post settlement populations with most wet areas having been drained for agriculture, and prairies replaced by cultivated fields. The presettlement vegetational patterns of Ohio have been classified by Gordon (1966). In eastern Ohio forests were once dominated by mixed mesophytic segregates such as broad leaved deciduous species and evergreen varieties. The project area was once dominated by ash, elm, beech, maple, and walnut. Nut bearing varieties provided a seasonal source of food for prehistoric populations.



## **Formulation of a Research Design**

The development of the research design incorporates information obtained from the archival review, culture history, and environmental context, which are used to identify objectives and questions to apply when testing a designated project area. The information obtained from the local and regional area help in the assessment of any identified building/site when determining its potential eligibility for nomination to the NRHP. A summary of the background findings and how this information may relate to the testing and evaluation of the project is provided below.

The project area is situated in the Unglaciaded Appalachian Plateau and is represented by steep sideslope of a ridgetop and a portion of a toe ridge/bench. Slope in the project ranges from 11 to 25%. The project is an overgrown former pasture. Two soil types: Guernsey-Westermoreland (GwD2) and Zanesville (ZnC) silt loam represent the project (USDA, SCS 1974). Eroded soils and steep slope are a concern for the project.

The archival review indicated that no previously recorded archaeological sites lie in the project area. One historic site has been found in the study radius. In the greater regional area ridgetop landforms have typically been found to contain prehistoric sites. Historic atlases/maps do not show any structures in the project so consequently a residential deposit (e.g. Ball 1984; South 1977) is not expected.

## **Methodological Approach**

The project area was tested using subsurface testing, and visual inspection. The testing methodologies are described below. Sites, if identified, are inventoried by Field Site #s (FS #). Each sequential site identified follows in numerical order and is recorded within the field notes and field maps and discussed accordingly within this report.

Subsurface testing will involve the excavation of a series of shovel test units within areas with <50% surface visibility. Shovel test units will be placed in a 15 m by 15 m (50' by 50') square grid. If a shovel test unit is identified as positive, four radial shovel test units will be excavated in the four cardinal directions from the positive test unit (within the project boundaries). Radial shovel test units will be spaced 7.5 m (25') from the positive shovel test unit. Radial shovel test units are used to help identify site boundaries within the project area for any site identified. Shovel test units and radial shovel test units are .25 m<sup>2</sup> (2.69'2) in size and are excavated by natural stratigraphic layers to a depth of approximately 5 cm (2") below subsoil. The soil matrix from each stratigraphic level will be dry screened through .6 cm (.25") hardware mesh. Any recovered artifacts are provenienced and placed in bags. Any features found on the subsoil floor of a shovel test unit will be drawn to scale with a plan view and photographed. A representative photo of the floor of a shovel test unit will be provided for the project area to exhibit a typical shovel test unit encountered during the survey.

Excavated areas, which reveal complete disturbance to the subsoil, are labeled shovel probes and possess 30 cm diameters. Those test locations, which are deemed shovel probes, are not screened and are back filled when determined to be disturbed. Areas which exhibit wet soils (with standing water or saturated soil) or disturbance at the surface will be labeled as such on the fieldwork map, and will not be excavated (unless noted by the field supervisor).

Visual inspection will be conducted at all test areas. This methodology is utilized in order to locate any unknown outbuildings, ruins, springs, dumps, or testable portions of the project. Any sites identified during visual inspection will be assigned a field site number and tested as deemed necessary by the field supervisor and/or principal investigator. Any testable landform identified will be subjected to testing methodologies and/or a testing grid which will cover the landform adequately.

### **Artifact Analysis**

Prehistoric and historic artifacts recovered in the field are washed and then inventoried for report purposes. Prehistoric artifacts are inventoried according to physical appearance (e.g., core, primary decortication flake, secondary thinning flake, granite hammerstone, bone awl, grit tempered pottery, etc.). The material from which artifacts are made from is identified in the inventory, such as flint type. Reference books (e.g., Justice 1987) are used when analyzing diagnostic artifacts. Specific studies on identified prehistoric assemblages are dependent upon what hypotheses or questions have been developed, if any, for the project area and the make-up of the assemblage. If a study on distribution or physical attributes of prehistoric artifacts is conducted, an entire section of the report is devoted to this endeavor. Prehistoric artifacts from each site are listed following the description of the site from which they were recovered or listed in a table in the back of the report. How the prehistoric assemblage was categorized into individual artifact classes is listed below. Attributes of flakes and tools is based on a number of references (e.g. Andrefsky 1994, 1998; Crabtree 1982; Kooyman 2000; Odell 2004, Pecora 2002), coursework and experience. Most of these artifact classes are commonly used by other CRM firms. While similar terms may be used by different companies it should be noted that classification of lithic debris is very subjective. In more advanced studies (e.g. Phase II or III) PAST may use a more refined technique that has been advocated by Pecora (2002).

### **Lithic Classification**

#### **Flake/Debitage**

*Primary Decortication:* These flakes exhibit 100% cortex on the dorsal surface. Typically, but not always these flakes are large and thick and representative of the early stage of raw material reduction.

*Secondary Decortication:* Flakes have less than 100% of the dorsal surface represented by cortex. Like primary decortication flakes this flake debris represents the initial stage of material reduction.

*Primary Flakes:* Typically exhibit a triangular platform and have a bulb of percussion at proximal end. These flakes are generally longer than they are wide. These flakes are typically associated with the shaping of cores and/or tool production.

*Secondary Flakes:* These flakes tend to lack a bulb of percussion and are smaller in size, slightly curved, and thinner than primary flakes. They can possess multidirectional or parallel ventral surface scars. These flakes are reflective of an intermediate to late stage biface/tool production.

*Finishing Flakes/Resharpener:* These flakes represent the late/final stages of biface production related to sharpening and/or trimming of a biface. They are very small in size, thin and slightly curved in cross-section and typically possess numerous multi-directional scars on the ventral surface.

*Flake Fragments/Broken Flakes:* These are flakes which lack a distinguishable platform/proximal end.

*Shatter/Blocky Irregular:* These flake fragments are angular or square shaped pieces that have no distinguishable ventral or dorsal sides. These pieces are a related byproduct of raw material reduction and/or biface manufacture.

The physical attributes of debitage, such as flint type and whether a flake has been heat treated are listed for artifacts recovered at each site. If nearby flint resources can be identified through the use of identified quarry/outcrops (Stout and Schoenlaub 1945) this will be noted.

## Tools

*Cores:* Prepared nodules of flint. These can include systematic reduction cores, multi-directional reduction, and bipolar core. Cores are made for the purpose of obtaining flakes or to be further modified into other tools.

*Unifaces:* Tools that have a working edge on one side only. Scrapers are commonly found as unifaces.

*Bifaces:* Tools that have a working edge on both sides. These can come in many forms such as blanks and preforms and typically indicate a stop in the

reduction stage that may be related to the creation of items suitable for transport. These pieces are then worked into a more formal tool at a later time.

*Modified Flakes:* Includes retouched flakes, and utilized flakes. Typically the flake is used for scraping or cutting.

*Ground Stone Tools:* Includes ground stone tools such as stone axes, adzes, celts, hammerstones, bannerstones, and any other shaped pieces.

**Fire Cracked Rock (FCR):** FCR is rock cracked by intense heat associated with thermal activities. Not all FCR has to be cracked however to be termed FCR. Some stones in feature context show signs of heat alteration with color change (e.g. blackening or reddening). FCR in Ohio is made of a number of materials associated with igneous (e.g. granite), metamorphic (e.g. gneiss), and sedimentary rocks (sandstone, limestone, etc.). In Phase I surveys these items are counted but not curated. In more advanced studies (Phase II and III) the FCR is counted, weighed and may be size graded depending upon the research questions.

Historic artifacts are inventoried using a modified version of Stanley South's (1977) artifact categorization system, which places artifacts into the following functional groups: Kitchen, Architectural/Residential, Arms, Activities, and Personal. Each of these groups has several subcategories which allows for variation, and those artifacts that do not fit in a particular group are placed in a Miscellaneous category. Various ceramic/historic artifact source books are used when determining identity, age, function, and possible economic status of an historic assemblage. These books include: Cushion (1980), Dalrymple (1989), Fitting (1970), Hume (1991), Kovel and Kovel (1995 [1953]), Majewski and O'Brien (1987), Manson and Snyder (1997), McConnell (1990), Miller (1980), Miller et al. (1991), Newman (1970), Ramsay (1976), Sussman (1977, 1997), and Turnbaugh (1985).

### **Curation**

Following the acceptance and clearance of the report, the property owner from which an archaeological site was identified is notified that artifacts were found. A written notice indicating that they may claim ownership of the artifacts or donate them to a curational facility is then sent to the property owner. Professional Archaeological Services Team (PAST) encourages property owners to donate recovered archaeological material because of the importance in the interpretation of the archaeological record and for the present and future research potential by fellow archaeologists. A copy of the property owner's decision is maintained at the office of PAST. If donation is requested, artifacts, field notes, and photographic negatives will be donated to the Ohio Historical Society's Curation Facility. If donation is denied and the artifacts are claimed by the property owner, PAST will house field notes and photographic negatives, and return all recovered artifacts to the property owner.

## **Field Work**

The field work portion of the Phase I CRM survey was conducted in March of 2006. One datum was used for the project area (Figures 2 and 5; Plates 1-4). The field investigations consisted of visual inspection as well as shovel test unit excavation. The proposed haul road (Figure 5) is located upon the slope of a generally north-south oriented ridge top. The degree of slope varied in this area between approximately 15-25 degrees. The entire length of the haul road was visually inspected. Some light disturbances were located in the north portion of the haul road, which may be related to the fanning out of excavated soils related to the modern house structure that is located to the east of the entrance of the haul road. There were four shovel test units excavated at the southern end of the proposed haul road. In this location the slope lessened to between 11-15 degrees, and protruded out like a narrow bench. A row of four shovel test units were excavated in this area. The average depth of the excavated shovel test units was 22 cm (8.6"). No cultural remains were identified.

At the southern terminus of the haul road was a larger area approximately 152 m (500') by 91 m (300'). The larger bench area was investigated through the excavation of shovel test units at 15 m (50') intervals (Figure 5). The general slope was approximately 11 degrees across the top of this bench and the landform generally sloped to the west. A total of 68 shovel test units were excavated in this portion of the project area, three of which were inadvertently excavated outside of the project area. These shovel test units had an average depth of 23 cm (9.1"). A typical test unit is shown on Plate 5. The excavated solum varied from a loose sandy loam to a dense clay. No cultural remains were identified in any of the excavated shovel test units.

## **Summary of the Investigations**

The project area was investigated through visual inspection, and the excavation of shovel test units at 15 m (50') intervals. Visual inspection identified two testable locations in the project area. No archaeological sites were encountered in the project area. It is felt that the testing which was conducted during this investigation was adequate for the identification of archaeological resources, which could have been located within the project area.

## **Conclusions and Recommendations**

Professional Archaeological Services Team completed a Phase I Cultural Resource Management survey in Sunbury Township, Monroe County, Ohio. The survey was conducted at the request of Jack A. Hamilton & Associates, Inc. The project, a 2.8 ha (6.9 a.) parcel of land, is an Incidental Boundary Revision for Permit Area #D-0425. Subsurface test units and visual inspection were employed to analyze the project. The survey found no archaeological sites or historic structures within the project area.

To conclude, no further archaeological work is recommended for the project area.

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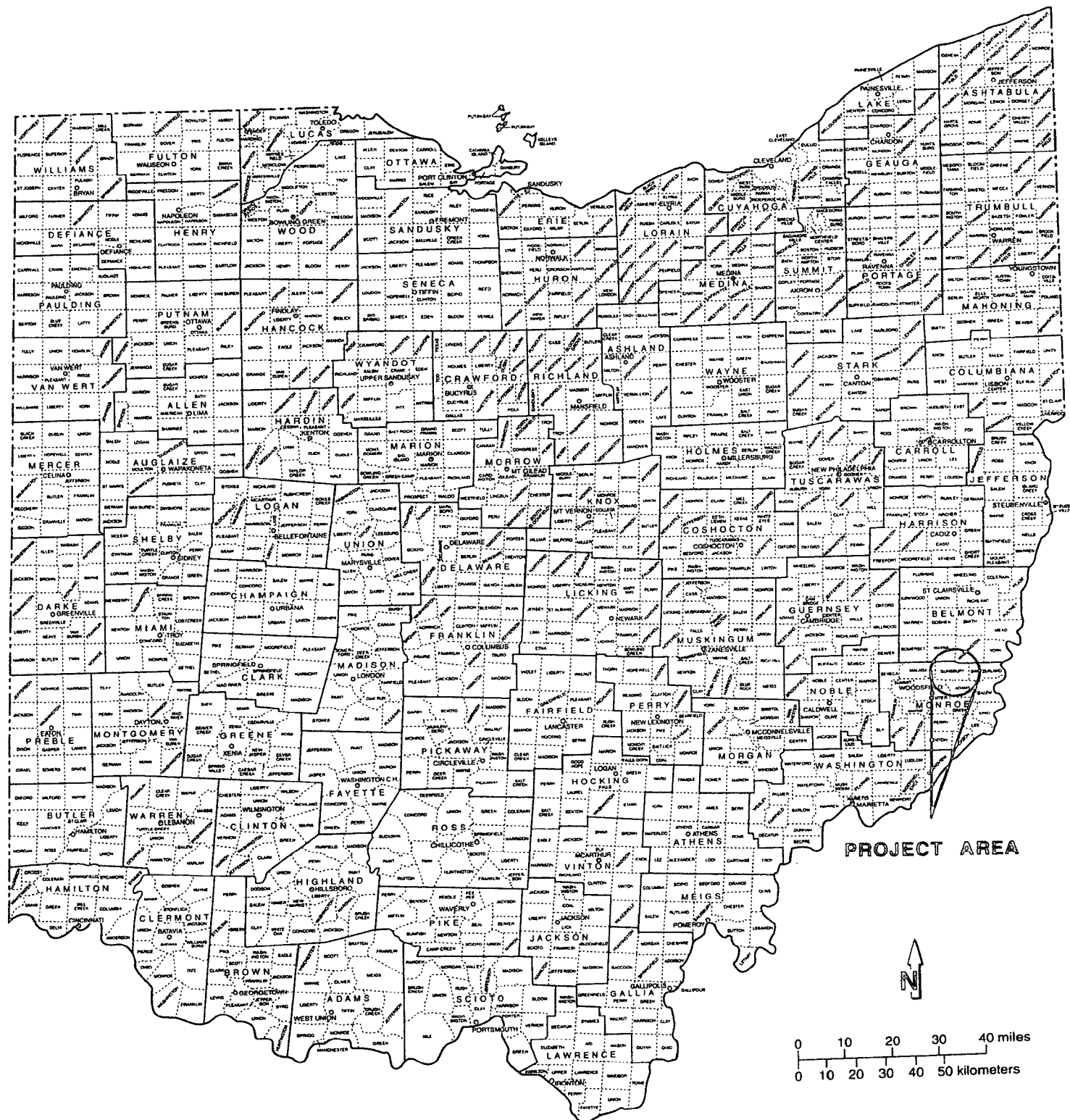


Figure 1. Map of Ohio Political Boundaries showing the project area.

This map is intended to show the majority of townships that currently exist or have existed in the past. Especially in urban areas, all or parts of some townships may have been incorporated into cities or villages. Boundaries are based primarily on U.S. Geological Survey and county engineers' maps.



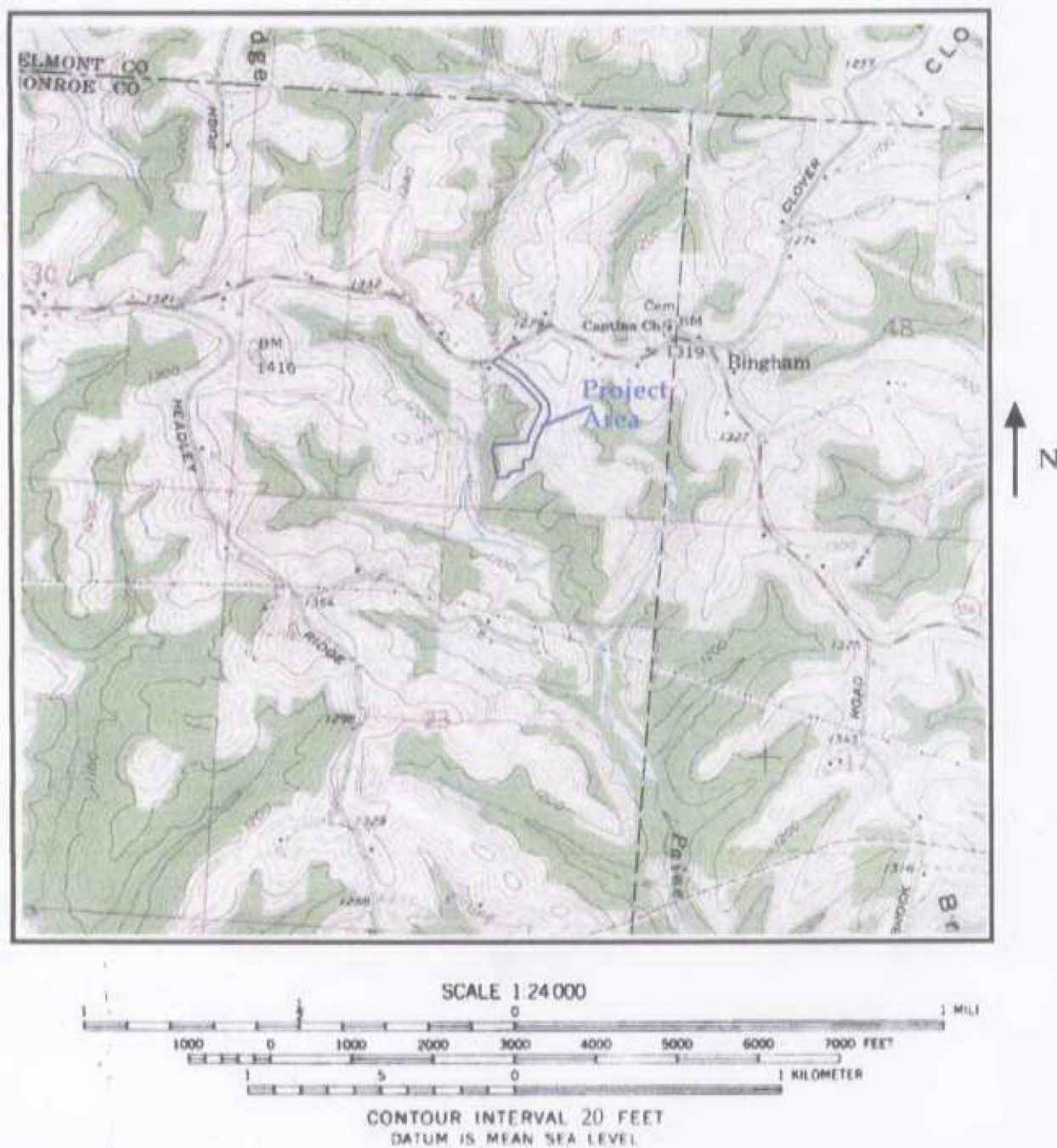


Figure 2. Portions of the USGS 1960 (PR 1972) *Cameron* and 1961 *Woodsfield* Quadrangles, Ohio, 7.5 Minute Series (Topographic) maps showing the location of the project area.



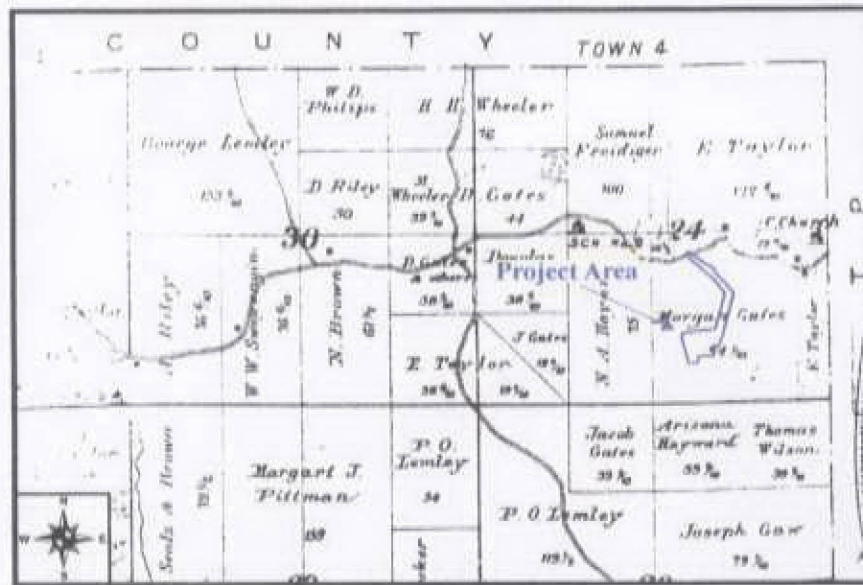
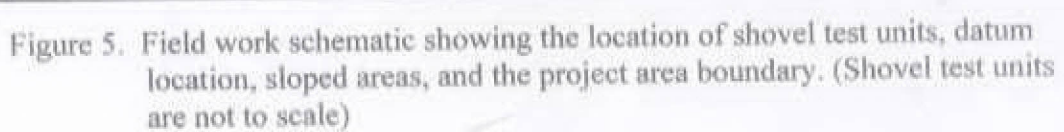


Figure 3. Portion of 1898 *Caldwell's Atlas of Monroe County, Ohio* (Caldwell 1898) showing the estimated location of the project area.



Figure 4. Portion of the 1905 *Clarington, Ohio 15 Minute Series (Topographic)* map showing the general location the project area.





## **Plates**

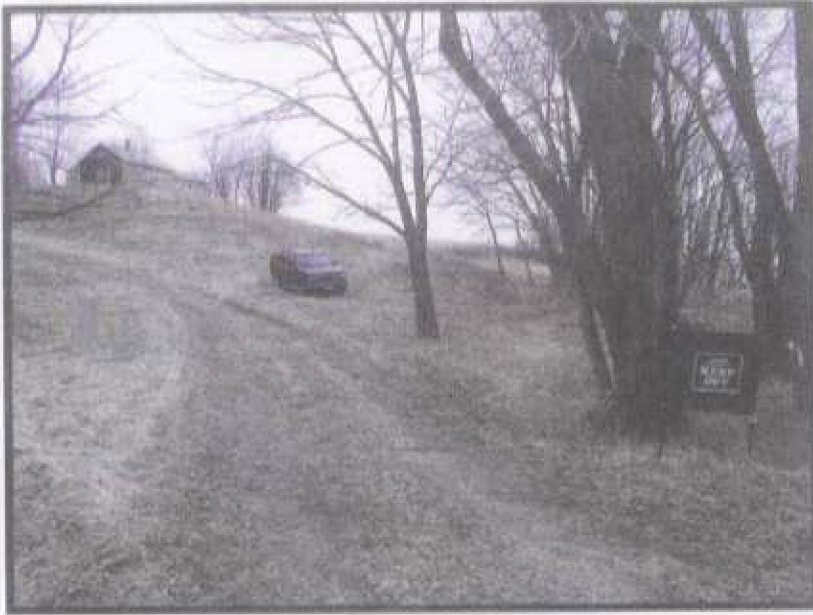


Plate 1. View of the project area facing southeast from State Route 553 (the northern end of the haul road).



Plate 2. View of the southern portion of the haul road corridor, view facing north from approximately station 13+00.



Plate 3. View of the haul road corridor facing northwest from approximately station 8+50.



Plate 4. View of the project area, facing west from the southern terminus of the haul road, showing the landform that was tested.



Plate 5. Typical shovel test unit excavated in the project area.

The post-mining land use for this area will be aesthetically appropriate and corresponds with adjacent land uses. Grasses and legumes will be used as a cover crop. Following reclamation, the capability and productivity of the land will be greater than that at the present time. The reclaimed land could sustain other agricultural or recreational uses.

27. Submit Surface Owner Comments from the legal or equitable owner(s) of record of the IBR application area concerning the proposed land use.

**See Surface Owner Comments - American Energy Corporation**

28. Is the post-mining land use to be different from the pre-mining land use?

Yes ☒ No ☐ If "yes," submit Land Use Change Notification.

29. Submit Negative PFL Determination for areas within this IBR application area that are not prime farmland.

Having considered the negative determinations, does this IBR application area include any land that is prime farmland? Yes ☐ No ☒

If "yes," submit PFL Restoration Plan or describe how this area will be avoided.

30. Are any of the variances listed below being requested?

Yes ☒ No ☐ If "yes," identify the variances and submit the applicable request(s) as an addendum.

☐ Stream buffer zone ☒ Small area drainage exemption

31. Will the proposed IBR area result in diversions of overland flow away from the disturbed area?

Yes ☐ No ☒ If "yes," provide the required engineering designs.

32. Will the proposed IBR area result in construction of diversions to direct runoff through a sediment pond or a series of sediment ponds?

Yes ☐ No ☒ If "yes," provide the required engineering designs.

Application for an Incidental Boundary Revision

Revised 02/06

DNR-744-9005

OHIO DEPARTMENT OF NATURAL RESOURCES  
DIVISION OF MINERAL RESOURCES MANAGEMENT

SURFACE OWNER COMMENTS

TO: American Energy Corporation

FROM: American Energy Corporation

Location of Proposed Permit Area:

County/Twp: Monroe / Sunbury

Lot/Section: 24

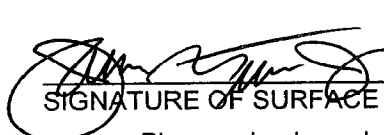
The proposed postmining land use(s) for your property is/are checked below:

<input checked="" type="checkbox"/>	Cropland	<input type="checkbox"/>	Residential Land Use
<input checked="" type="checkbox"/>	Pasture Land	<input type="checkbox"/>	Forest
<input type="checkbox"/>	Grazing Land	<input type="checkbox"/>	Undeveloped Land Use
<input type="checkbox"/>	Industrial Land Use	<input type="checkbox"/>	Fish & Wildlife
<input type="checkbox"/>	Commercial Land Use	<input type="checkbox"/>	Recreation Land Use
<input type="checkbox"/>	Developed Water Resources		

Pursuant to 1501:13-4-05(G)(2) of the Ohio Administrative Code, surface owner comments concerning the proposed postmining land use(s) for the proposed permit area are required. Please check the appropriate box below.

<input checked="" type="checkbox"/>	I concur with the proposed postmining land uses identified by the mine operator.
<input type="checkbox"/>	I DO NOT concur with the proposed postmining land uses.

COMMENTS:

 TREASURER  
SIGNATURE OF SURFACE OWNER

6/12/06  
DATE

Please check each (if any) of the following listed wildlife enhancements that you would be interested in having on your property. **PLEASE NOTE:** Checking a box does not require the operator to provide any or all of selected enhancements. This form is a tool to help landowners better understand options that may be available through the coal company.

<input type="checkbox"/>	Tree/Shrub Plantings	<input type="checkbox"/>	Small Depressions
<input type="checkbox"/>	Ponds/Wetlands	<input type="checkbox"/>	Perching/Nesting Structures
<input type="checkbox"/>	Brushpiles	<input type="checkbox"/>	Other: <input type="checkbox"/>
<input type="checkbox"/>	Rockpiles	<input type="checkbox"/>	Other: <input type="checkbox"/>

**WAIVER STATEMENT (Optional for Surface Owner):** I, the above named surface owner, waive my right to comment on any revision to the permit application during the application review process that results in a change in the postmining land use(s) from those shown above. (NOTE: I DO NOT WAIVE MY RIGHT TO COMMENT ON ANY PROPOSED POSTMING LAND USE CHANGE AFTER PERMIT ISSUANCE.)

SIGNATURE OF SURFACE OWNER

DATE

Part 2: Section F

Revised 02/06  
DNR-744-9048

IPR-0408-11

AEC 08029

**Ohio Department of Natural Resources  
Division of Mineral Resources Management**

**LAND USE CHANGE NOTIFICATION**

TO: U.S. Fish and Wildlife  
Division of Ecological Services  
6950-H Americana Parkway  
Reynoldsburg, Ohio 43068

Division of Wildlife  
2045 Morse Road  
Building G-2  
Columbus, Ohio 43229-6693

**Note: This form is to be completed only if a land use change is to occur.**

1. Is a copy of the coal mine permit application currently on file with the Division of Mineral Resources Management? ☒ Yes, ☐ No.

2. Coal mine permit application no. or mine name **D-0425, Century Mine, I.B.R.**

3. Application to revise permit no. **N/A**

4. Applicant **American Energy Corporation**

Address **43521 Mayhugh Hill Road**

City **Beallsville** State **OH** Zip **43716**

Phone no. **740-926-9152**

6. Application Location

County **Monroe** Township **Sunbury**

Section **24** Lot  Acres **7.1**

Township **4** Range **4** Quadrangle **Cameron**

**Note: only list land uses below that will change from the premining use**

7. Pre-mining Land Use type and acreage:

**Undeveloped Land - 1.3 Acres**

8. Post-mining Land Use type and acreage:

**Pastureland - 1.3 Acres**

9. Revegetation Plan (SPECIES AND AMOUNTS)

<b>8 lbs/ac. Orchard Grass</b>	<b>7 lbs/ac. Alfalfa</b>
<b>10 lbs/ac. Red Clover</b>	<b>10 lbs/ac. Timothy</b>

10. Stream Variance Request ☐ Yes, ☒ No If "yes," indicate the percentage of tree cover within the 100' buffer zones.

**Notifications to U.S. Fish and Wildlife and Division of Wildlife must include a location map, and a map of the mine site showing where land use changes will occur. If "yes" to item 10 above, enclose a copy of Stream Buffer Zone Variance Request with each notification.**

FOR DIVISION USE ONLY

This application is hereby ☒ issued, ☐ disapproved

☒ The acreage identified in Item 4 of this application is now part of permit D-0425.

☐ The acreage identified in Item 5 of this application has been deleted from permit \_\_\_\_\_.

Date: 9-29-06

Signed: \_\_\_\_\_

Chief, Division of Mineral Resources Mgmt.

\$ 17,750.00 of performance bond received on 9-28-06 and  
\$ 532.50 of acreage fee received on 9-28-06.

**Addendum To Land Use Change Notification**  
**American Energy Corporation**

Pre-Mining Land Use: Undeveloped Land

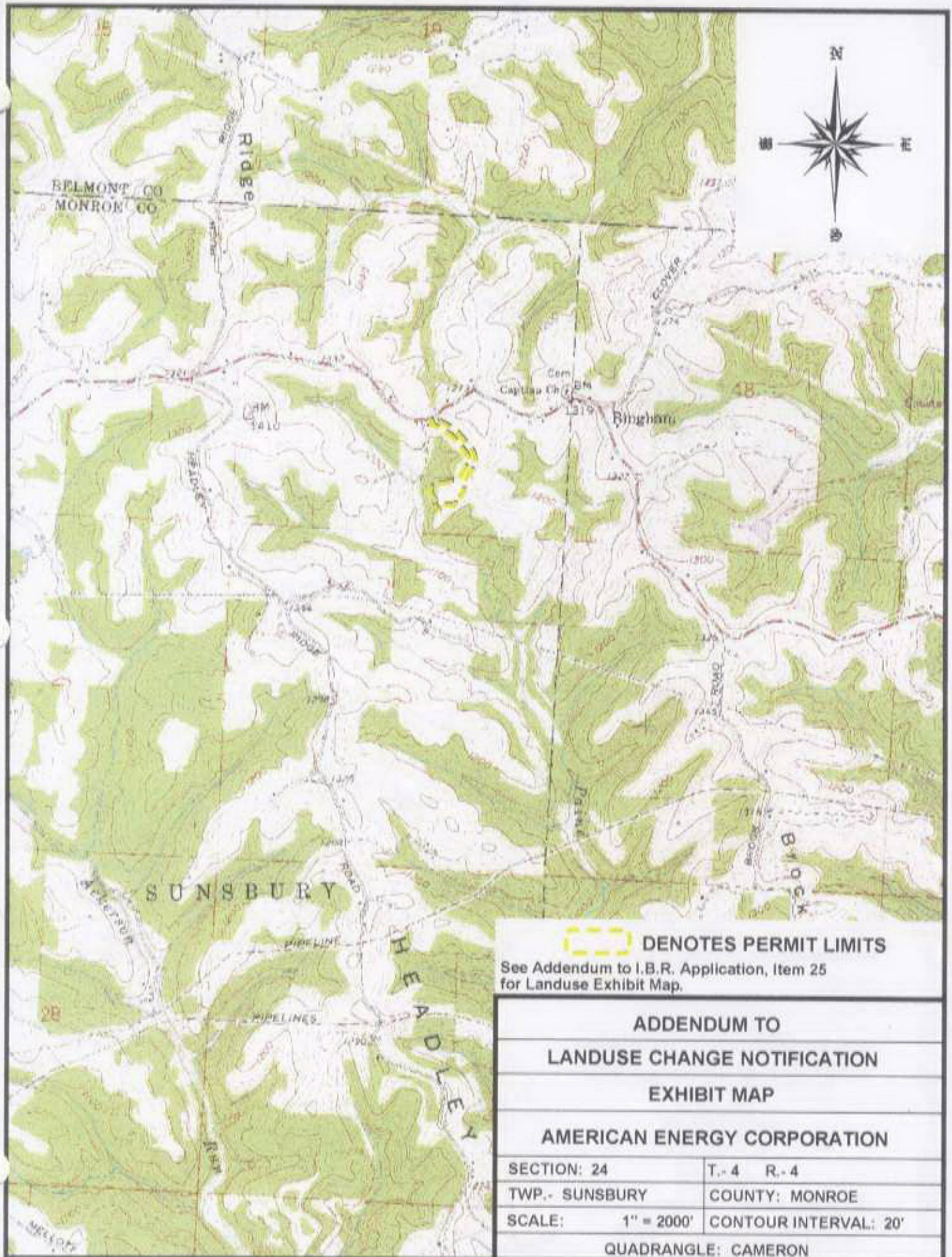
Post Mining Land Use: Pastureland

RULE 1501:13-9-17(D)(1-6)

1. This proposed land use is compatible with the adjacent land uses which primarily consist of pastureland and undeveloped land. There are no existing local, state or federal land use policies or plans for the area. A notification of the land use change has been mailed to U.S. Fish & Wildlife and to the Division of Wildlife. No zoning or other changes will be required for this land use change.
2. Based on soil types in the area, the plan is feasible. For a schedule showing how the proposed use will be developed and achieved within a reasonable time see the planting schedule in Part 3 of this permit application.
3. There are no public facilities required for the proposed land uses.
4. This proposed land use will neither present actual or probable hazard to public health or safety, nor will they pose any actual or probable threat of water flow diminution or pollution.
5. This proposed land use will not change the reclamation schedule for this permit application.
6. This proposed land use should not have any adverse effects on fish and wildlife. An opportunity to comment has been provided to the appropriate State and Federal Fish and Wildlife Management Agencies. The notification of land use change was mailed to the U.S. Fish and Wildlife and The Division of Wildlife.

NOTE: The pre-mining land use will remain on all areas in which the surface has not been disturbed.





IBR-0425-11

AEC 08033

**OHIO DEPARTMENT OF NATURAL RESOURCES  
DIVISION OF MINERAL RESOURCES MANAGEMENT**

**NEGATIVE PFL DETERMINATION**

Applicant's Name **American Energy Corporation**

Check (X) the appropriate item numbers and attach the documents used to make the demonstration.

- ☐ 1. Lands within the application area have not been historically used for cropland.
- ☐ 2. The slope of the land within the application area is greater than eight percent.
- ☐ 3. The total prime farmland soil unit (inside **and** outside of the application area) is less than three acres.
- ☒ 4. On the basis of a second order soil survey meeting the standards of the National Cooperative Soil Survey, there are no soil map units within the application area that have been designated prime farmland by the U.S. Natural Resource Conservation Service.
- ☐ 5. On the basis of a first order soil survey commissioned by the applicant and meeting the standard of the National Cooperative Soil Survey, there were found to be no prime farmland map units as designated by the NRCS within the application area (see PFL Restoration Plan, item 2 for 1st order survey criteria).

**Part 2: Section G**

Revised 02/06  
DNR-744-9029

AEC 08034

**Certification of Prime/Nonprime Farmland**

Name of Mine Operator *AMERICAN ENERGY CORPORATION*

Location of Permit Application Area *Sec 24 T-4-R-4 SUNSBURY*

Size of Permit Area (Acres) *8 ± AC*

**Check Appropriate Block:**

1. ☒ I have determined that this permit application DOES NOT contain prime farmland in accordance with the edition of the current county Prime Farmland Map Unit List found in the county Field Office Technical Guide.
2. ☐ I have found that this permit application CONTAINS prime farmland in accordance with the edition of the Prime Farmland Map Units for Ohio and for the current county Prime Farmland Map Unit List, whichever is more current.

A soil map has been attached and prime unit(s) are as follows:

**Soil Map Symbol**

**Map Unit Name**

Signature: \_\_\_\_\_

*Jeff Bettinger*  
**Jeff Bettinger, Natural Resources Conservation Service**  
1119 East Main St., Barnesville, OH 43713 (740) 425-1100 Ext. 112

111-0485-1

AEC 08035



# Soils Map

Field Office: BARNESVILLE SERVICE CENTER

Agency: USDA-NRCS

Assisted By: Jeffery Parker Bettinger

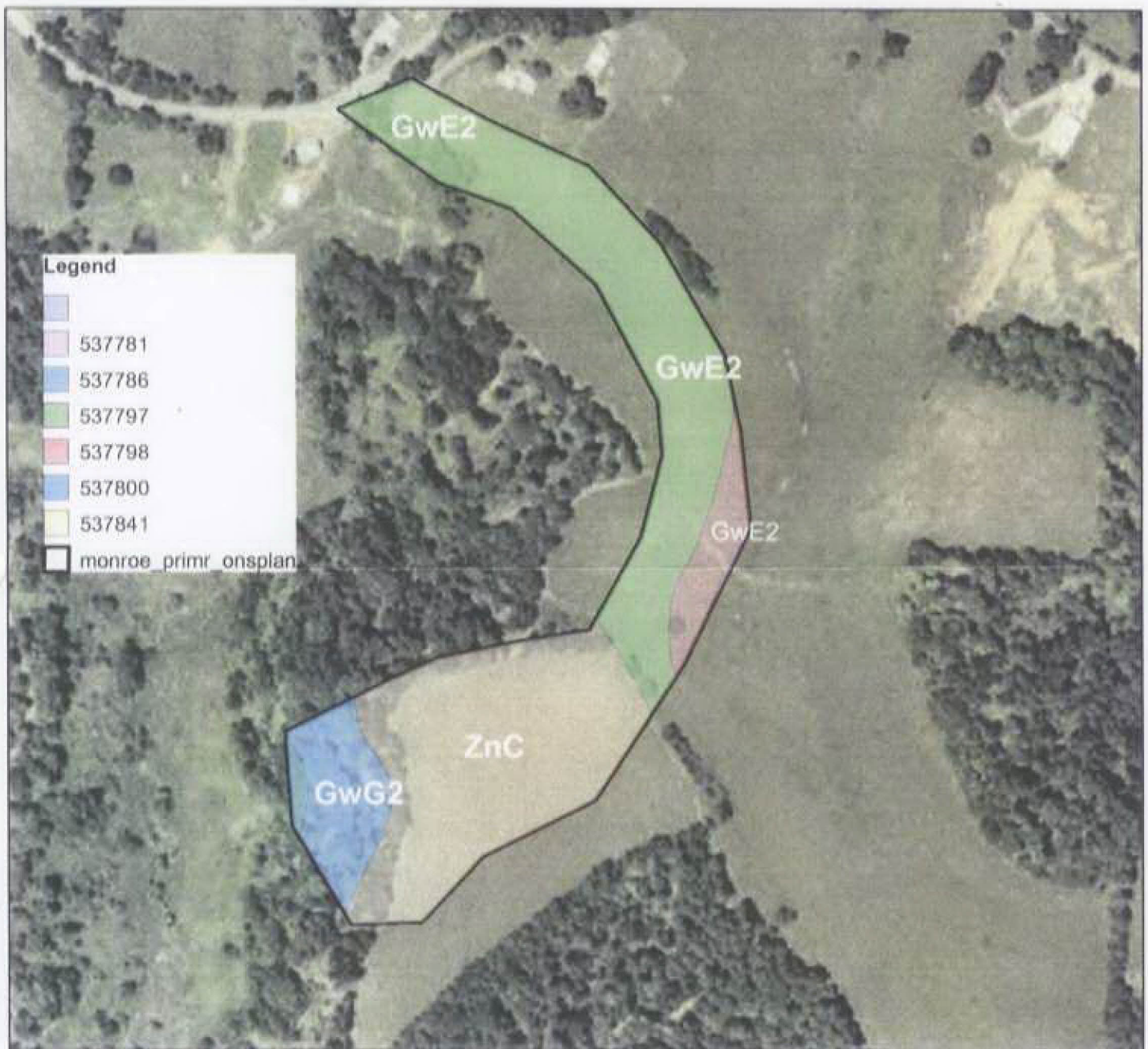


Image: Orthophotography

IBR-0425-11

AEC 08036

Addendum to I.B.R. Application, Item 30  
American Energy Corporation

Chief  
ODNR, Division of Mineral Resources Management  
2045 Morse Road, Bldg. H-2  
Columbus, Ohio 43229-6693

Re: D-0425, Small Area Drainage Exemption

Dear Chief:

American Energy Corporation is hereby requesting a Small Area Drainage Exemption at this proposed I.B.R. site. As shown on the enclosed I.B.R. map the S.A.D.E. is located in the central portion of the I.B.R. and contains 1.2 acres. This S.A.D.E. is for the outslope of the fill for the pad. Prior to disturbance, hay bales and/or silt fence will be placed where necessary along the northerly and easterly boundary of the pad to control runoff. Grading operations will then be undertaken to construct the pad. The pad will be constructed with a slight grade to drain toward the sump. Immediately after construction, the S.A.D.E. area will be seeded and mulched. All runoff will meet the appropriate effluent limitations.

Yours truly,

*Suzie Utter*

APPROVED	<input checked="" type="checkbox"/>
DISAPPROVED	<input type="checkbox"/>
DATE:	<u>9-29-06</u>
SIGNED	<i>Michael L. [Signature]</i>

33. Indicate which of the following are proposed to be constructed within this IBR application area, and provide the required engineering designs for each.

- ☒ Sedimentation pond(s) (submit Pond/Impoundment Plan)
- ☐ Water impoundments, including wetlands that impound water (submit Pond/Impoundment Plan)
- ☒ Sumps
- ☒ Other (specify) **Borehole - See Addendum**

34. Are any roads to be constructed, used or maintained within this IBR application area?

Yes ☒ No ☐ If "yes," provide the required description and engineering designs.

**See Addendum to I.B.R. Application, Item 34**

35. Are there any conveyor or rail systems to be constructed, used or maintained within this IBR application area?

Yes ☐ No ☒ If "yes," provide the required description and engineering designs.

I, the undersigned authorized representative of the permittee, hereby attest that no coal has been or will be removed from the acreage identified in this application and verify the information in this application as true and correct to the best of my information and belief.

Printed Name: **James R. Turner**

Signature: \_\_\_\_\_

Title: **Treasurer**

Date Signed: \_\_\_\_\_

**6/12/06**

Sworn before me and subscribed in my presence this 12<sup>th</sup> day of

June, 2006.

Notary Public



**BARBARA L. RUSH**  
NOTARY PUBLIC, STATE OF OHIO  
MY COMMISSION EXPIRES 9-09-09

*Application for an Incidental Boundary Revision*  
Revised 02/06  
DNR-744-9005

Addendum to I.B.R. Application , Item 33

The American Energy Corporation is proposing to install two (2) ventilation shafts for the Century Mine. The shafts will be located approximately one (1) mile east of Beallsville, Ohio along State Route 556. One shaft will be located in a field south of said state route while the other shaft will be located to the north of the highway.

The terrain of the landscape is rolling hills. The shaft pad will be located in a grown up field. The primary road will be located in a field currently being used for hay production. The undisturbed areas used in the enclosed calculations are assumed to be farmstead and pasture, good condition.

The site will disturb little acreage. Therefore, a S.A.D.E. will be applied for within this application. Runoff will be controlled from the pad and primary road areas by the use of road ditches, sumps and clarifiers.

A sump will be constructed downhill from the pad for use in drilling operations. The sump is designed to store two and a half ( $2 \frac{1}{2}$ ) times the amount of the raw drill hole. The remainder of the storage not filled by settled tailings will be used to control any fugitive sediment from the pad area. The sump will discharge through a constructed broad crested weir into a clarifier. The purpose of the clarifier is to assure water discharge requirements by adding settling time. A berm constructed on the pad will ensure that runoff will flow into the sump and not into the clarifier.

Temporary structures such as silt fencing, hay bales, and additional sumps will be used on an as needed basis.

2000-01-01

ADDENDUM TO IBR, ITEM 33  
AMERICAN ENERGY CORPORATION  
IBR-0425-11

Aquifers will not be dewatered during drilling of the shaft. With the exception of Zone A, all aquifer zones will be encountered during the drilling of the shaft, however, the shaft will be sealed with steel casing and grout as shown the Addendum to I.B.R. Application, Item 33, Shaft Sealing Plan, and described in the addendum to Page 23, A(12)(e), shaft construction summary.

There appears to be a discrepancy on the abandoned mine quadrangle in this area for the abandoned Powhatan No. 1 Mine (Bt-270). The actual Powhatan No. 1 Mine map was utilized to place the mine limits on the I.B.R. / A.R.P. map. In the past, Powhatan No. 1 Mine shafts have been cross-tied in the field to insure that the abandoned underground mine works were tied to, and relate correctly to, the proposed new underground works.

Please refer to the actual abandoned mine map for the Powhatan No 1 mine, and *not* the USGS abandoned Mine Map Quad to confirm the correct location of the mine.

A sump will be used for storage of tailings. During reclamation, tailings generated from drilling the shaft and stored in the sump and will be returned to the shaft and sealed during mine closure. The facilities will be removed within two years following the completion of coal removal from the mine. See Addendum to Page 23, A(12)(e) for Shaft Drilling Procedures Summary. Due to buffering capabilities in the overburden to be affected in construction of the shaft, the tailings will present no potential for creating acid mine drainage. Toxic and acid forming material, as illustrated by test hole CLC-2002-43 (Permit D-0425-5), includes the following coal seams; Washington #12, Waynesburg A, Waynesburg #11, Fishpot, Redstone, and Pittsburgh #8 Roof coal, including black shales above and below most coal seams, and possibly intermittent black shales within the drill log. These coal seams and strata account for approximately 20 feet, or 3% of the overburden above the Pittsburgh #8 coal. Non-toxic strata includes limestone, limey shales, and limey claystones. These strata account for approximately 388 feet, or 59% of the overburden above the Pittsburgh #8 coal. The remaining strata consists of gray and red claystones, sandy shales, with no limestone nodules, and sandstones with no limestone nodules. These strata account for approximately 254 feet, or 38% of the overburden above the Pittsburgh #8 coal. In the unlikely event that this 38% of the overburden was all toxic and/or acid forming, the non-toxic strata outweighs the toxic strata by 31%.

IBR-0425-11



**OHIO DEPARTMENT OF NATURAL RESOURCES  
DIVISION OF MINERAL RESOURCES MANAGEMENT**

**POND/IMPOUNDMENT PLAN**

Applicant's Name **AMERICAN ENERGY CORPORATION** Pond/Impoundment # **CLARIFIER**

Type of pond/impoundment **EMBANKMENT**

Permanent ☐

Temporary ☒

1. DRAINAGE AREA DATA:

- a) Drainage area **2.0** acres
- b) Disturbed area **1.3** acres
- c) Ave. land slope **10 %**
- d) Hydrologic soil group **C**
- e) Hydraulic length **250.0** ft.
- f) Cover/condition of the undisturbed area **FARMSTEAD**

2. DESIGN STORM CRITERIA:

a) Method:

- 1) Design method(s) including computer programs: **SEDCAD 4.0**
- 2) NRCS curve number **87**

b) Rainfall Amount/Peak Flow      Rainfall, in.      Peak flow, cfs.

- 1) 10 year, 24 hour =      **3.5**      **3.6**
- 2) 25 year, 6 hour =      **4.1**      **4.5**
- 3) 50 year, 6 hour =  
(if permanent)
- 4) 100 year, 6 hour =  
(if 20/20 size)

3. SIZE:

a) Dimensions:

- |               |            |     |                         |             |     |
|---------------|------------|-----|-------------------------|-------------|-----|
| 1) Dam height | <b>6.0</b> | ft. | 4) Dam downstream slope | <b>33.3</b> | %   |
| 2) Dam width  | <b>12</b>  | ft. | 5) Dam upstream slope   | <b>50</b>   | %   |
| 3) Dam length | <b>150</b> | ft. | 6) Core length          | ft.         | ft. |

b) Sediment storage volume **0.6** ac. ft. is provided below the **1233.0** foot elevation.

c) Stage/Area Data:

- |                               | Elevation<br>ft. | Surface Area<br>ac. | Volume<br>ft. |
|-------------------------------|------------------|---------------------|---------------|
| 1) Bottom of pond/impoundment | <b>1227.0</b>    | <b>0.067</b>        | <b>0.0</b>    |
| 2) Streambed at upstream toe: | <b>1227.0</b>    | <b>0.067</b>        | <b>0.0</b>    |
| 3) Principal spillway inlet:  | <b>N/A</b>       | <b>N/A</b>          | <b>N/A</b>    |
| 4) Emergency spillway crest:  | <b>1233.0</b>    | <b>0.138</b>        | <b>0.6</b>    |
| 5) Top of embankment:         | <b>1235.0</b>    | <b>0.167</b>        | <b>0.9</b>    |

4. PRINCIPAL SPILLWAY:

- a) Pipe length            ft.
- b) Pipe diameter            in.
- c) Pipe slope            %
- d) Riser diameter            in.
- e) Riser height            ft.
- f) Type of pipe
- g) Number of anti-seep collars            ; spacing along pipe            ft.
- h) Does the design include a trash rack? ☐ Yes, ☐ No.
- i) Does the design include an anti-vortex device? ☐ Yes, ☐ No.

5. EMERGENCY SPILLWAY/EXIT CHANNEL:

- a) Base width **12.0 ft.**
- b) Design flow depth **0.5 ft.**
- c) Exit slope **50.0%**
- d) Exist velocity **4.2 fps**
- e) Channel lining **12" ROCK RIPRAP**
- f) Side slopes **2:1**
- g) Freeboard **1.5 ft.**
- h) Entrance slope **50 %**
- i) Length of level control section **18 ft.**

6. The minimum static factor of safety for this impoundment is **1.5**


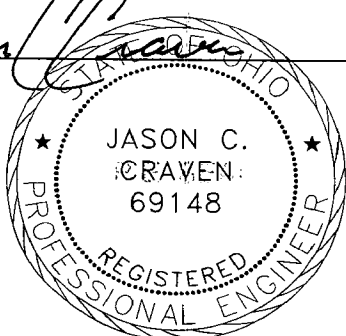
7. Provide as an addendum to this attachment a detailed plan view or 2 cross sections of the impoundment.

8. COMMENTS:

9. Is this an MSHA structure? ☐ Yes ☒ No. If "yes," provide the MSHA ID number if one has been assigned

10. If this is to be retained as a permanent impoundment, submit an addendum to this attachment demonstrating compliance with 1501:13-9-04 of the Administrative Code.

11. I hereby certify that this impoundment is designed to comply with the applicable requirements of 1501:13-9-04 of the Administrative Code using current, prudent engineering practices.

Signature   


Date 9/1/06

Part 3: Section A/H



OHIO DEPARTMENT OF NATURAL RESOURCES  
DIVISION OF MINERAL RESOURCES MANAGEMENT

POND/IMPOUNDMENT PLAN

Applicant's Name **AMERICAN ENERGY CORPORATION** Pond/Impoundment # **SUMP**

Type of pond/impoundment **EMBANKMENT** Permanent ☐ Temporary ☒

1. DRAINAGE AREA DATA:

- a) Drainage area **2.0** acres
- b) Disturbed area **1.3** acres
- c) Ave. land slope **10 %**
- d) Hydrologic soil group **C**
- e) Hydraulic length **250.0** ft.
- f) Cover/condition of the undisturbed area **FARMSTEAD**

2. DESIGN STORM CRITERIA:

a) Method:

- 1) Design method(s) including computer programs: **SEDCAD 4.0**
- 2) NRCS curve number **87**

b)	Rainfall Amount/Peak Flow	Rainfall, in.	Peak flow, cfs.
1)	10 year, 24 hour =	<b>3.5</b>	<b>4.4</b>
2)	25 year, 6 hour =	<b>4.1</b>	<b>5.4</b>
3)	50 year, 6 hour = (if permanent)		
4)	100 year, 6 hour = (if 20/20 size)		

3. SIZE:

a) Dimensions:

1)	Dam height	<b>6.0</b>	ft.	4)	Dam downstream slope	<b>33.3</b>	%
2)	Dam width	<b>12</b>	ft.	5)	Dam upstream slope	<b>50</b>	%
3)	Dam length	<b>306</b>	ft.	6)	Core length	ft.	ft.

b) Sediment storage volume **4.0** ac. ft. is provided below the **1233.0** foot elevation.

c) Stage/Area Data:

	Elevation ft.	Surface Area ac.	Volume ft.
1) Bottom of pond/impoundment	<b>1221.0</b>	<b>0.214</b>	<b>0.0</b>
2) Streambed at upstream toe:	<b>1227.0</b>	<b>0.330</b>	<b>1.6</b>
3) Principal spillway inlet:	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>
4) Emergency spillway crest:	<b>1233.0</b>	<b>0.471</b>	<b>4.0</b>
5) Top of embankment:	<b>1235.0</b>	<b>0.532</b>	<b>5.0</b>

4. PRINCIPAL SPILLWAY:

- a) Pipe length ft.
- b) Pipe diameter in.
- c) Pipe slope %
- d) Riser diameter in.
- e) Riser height ft.
- f) Type of pipe
- g) Number of anti-seep collars ; spacing along pipe ft.
- h) Does the design include a trash rack? ☐ Yes, ☐ No.
- i) Does the design include an anti-vortex device? ☐ Yes, ☐ No.

5. EMERGENCY SPILLWAY/EXIT CHANNEL:

- a) Base width **12.0** ft.
- b) Design flow depth \* ft.
- c) Exit slope **50.0**%
- d) Exist velocity \* fps
- e) Channel lining **N/A**
- f) Side slopes **2:1**
- g) Freeboard **1.8** ft.
- h) Entrance slope **50** %
- i) Length of level control section **18** ft.

6. The minimum static factor of safety for this impoundment is **1.5**

7. Provide as an addendum to this attachment a detailed plan view or 2 cross sections of the impoundment.

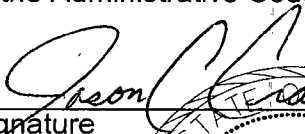
8. COMMENTS:

**\* THE EXIT CHANNEL CONSISTS OF A CONNECTOR BROAD CRESTED WEIR INTO THE CLARIFIER.**

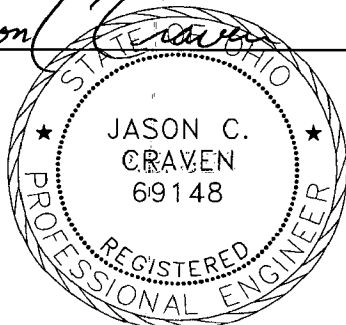
9. Is this an MSHA structure? ☐ Yes ☒ No. If "yes," provide the MSHA ID number if one has been assigned

10. If this is to be retained as a permanent impoundment, submit an addendum to this attachment demonstrating compliance with 1501:13-9-04 of the Administrative Code.

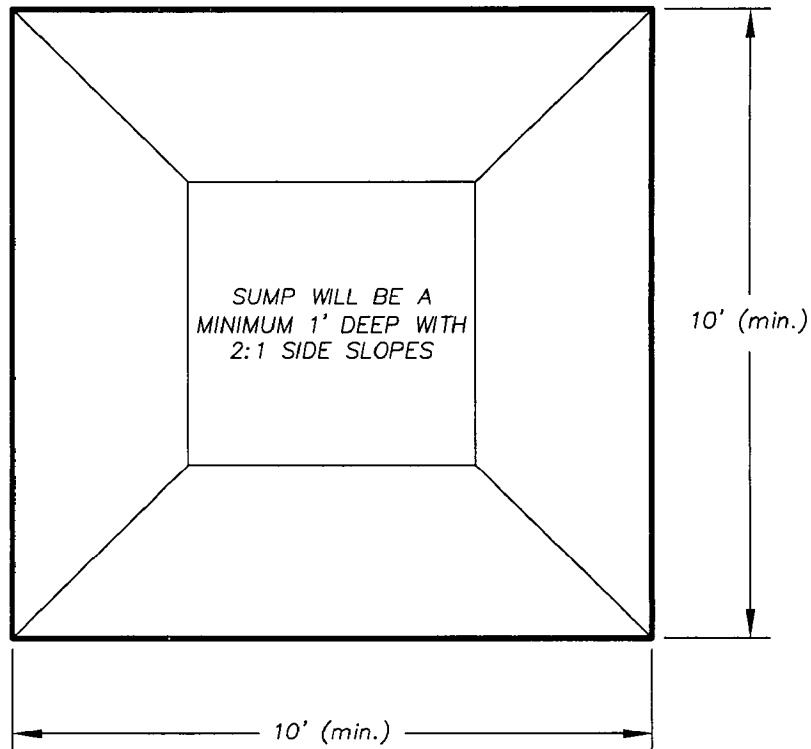
11. I hereby certify that this impoundment is designed to comply with the applicable requirements of 1501:13-9-04 of the Administrative Code using current, prudent engineering practices.

Signature 

Date 5/11/06



Part 3: Section A/I



**NOT TO SCALE**



*Jason C. Craven* 5/11/06  
Jason C. Craven, P.E.

ADDENDUM TO I.B.R. APPLICATION, ITEM 23  
**SUMP DETAIL**

Applicant: AMERICAN ENERGY CORPORATION

MULLETT AIR SHAFT SITE

Township: SUNSBURY

County: MONROE

Contour Interval: N/A

Scale: AS NOTED

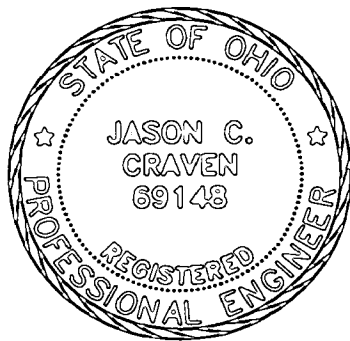
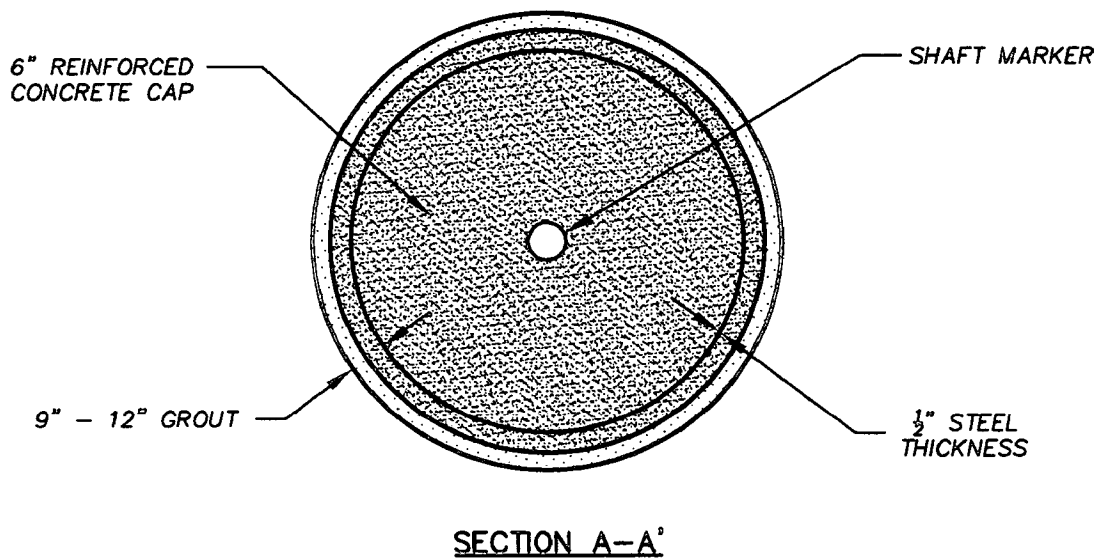
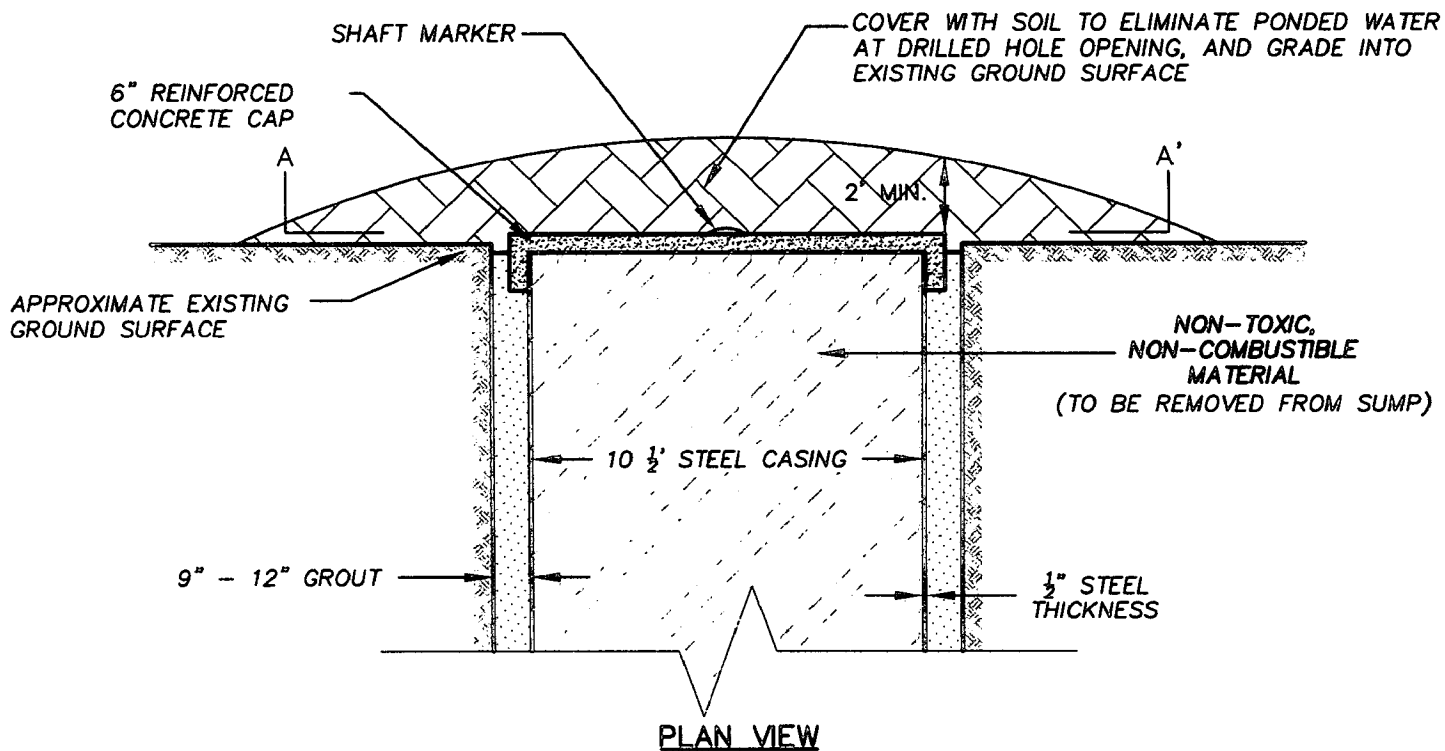
Date: 03/02/06

Date Revised:

Comm #02001-49



342 High St., Box 471  
Flushing, Ohio 43977  
Ph: (740) 968-4947  
Fax: (740) 968-4225  
e-mail: [hamilton@1st.net](mailto:hamilton@1st.net)  
[www.hamiltonandassoc.com](http://www.hamiltonandassoc.com)



*Jason C. Craven* 9/7/06  
Jason C. Craven, P.E.

ADDENDUM TO I.B.R. APPLICATION, ITEM 33  
**SHAFT SEALING PLAN**

Applicant: AMERICAN ENERGY CORPORATION

MULLETT AIR SHAFT SITE

Township: SUNSBURY

County: MONROE

Contour Interval: N/A

Scale: N.T.S.

Date: 03/02/06

Date Revised:

Comm #02001-49



342 High St., Box 471  
Flushing, Ohio 43977  
Ph: (740) 968-4947  
Fax: (740) 968-4225  
e-mail: hamilton@1st.net  
www.hamiltonandassoc.com

**American Energy Corporation**  
**Century Mine**  
**Shaft Drilling Procedures Summary**

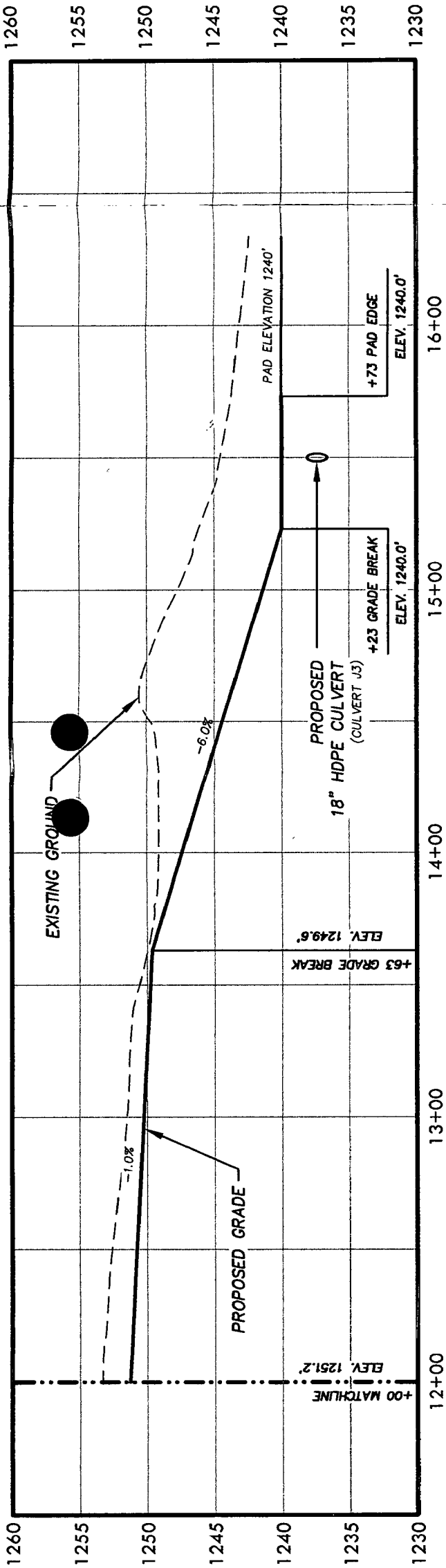
When the permit is issued, and access to the site is achieved, the site will be constructed to include drainage controls, and the drill rig will be assembled. The normal protocol is as follows:

1. Pre-grout drilling, a series of 6" diameter holes are completed around the projected final shaft perimeter before the main shaft drilling begin. This series of holes will be drilled and pressure grouted, in order to stabilize the strata and fill voids around the proposed shaft area for an accurate and stable drilling platform.
2. A pilot hole is then drilled, which can vary in size, to contain the large reaming bit and to guide the reaming bit accurately to the final depth of the shaft.
3. The large reaming bit, which is usually 1 to 2 feet larger in diameter than the final diameter of steel liner to be installed, is then put into position and used to drill the hole to a pre-determined depth. The hole will remain filled with water during the entire process so that rock cuttings can be pumped from the shaft to the surface cuttings sump and allow the steel liner to be floated into place after drilling is completed.
4. The steel liner with the first section's bottom end enclosed, will be installed once the hole is drilled to the final depth and bit is removed. This process utilizes the water in the hole to stabilize and control the level of the steel liner as each section of steel liner is installed into the bore hole, water will be pumped inside the steel liner so that the liner will sink into the hole to accommodate the next section of liner for installation. This process is repeated until all of the steel liner sections are connected together and positioned into the hole.
5. The steel liner will be grouted into place once installed to total depth.
6. The water is then pumped out of the steel liner with exception of 3-5 feet that the pump can not pick-up.
7. The mine will then at a later date cut into the bottom of the steel lined shaft to create the ventilation connection between surface and underground. No water enters the mine in the region of the shaft.
8. When the air shaft is no longer needed the cuttings from the sump will be placed back into the shaft until completely filled. The surface area will then be regraded, mulched and seeded as per permit.

Note : All drilling is done with water from the cuttings sump. The water is re-circulated from the shaft to the sump and stored in the sump during the operation.

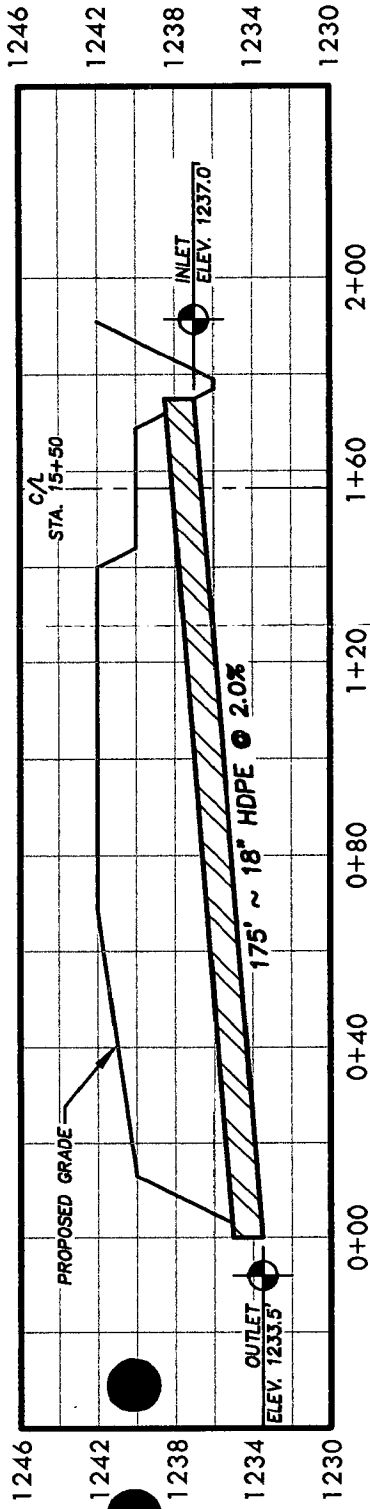
11/11/04





**PRIMARY ROAD J PROFILE**

Station 12+00 to 15+73  
Scale: 1" = 50' Horizontal  
1" = 10' Vertical

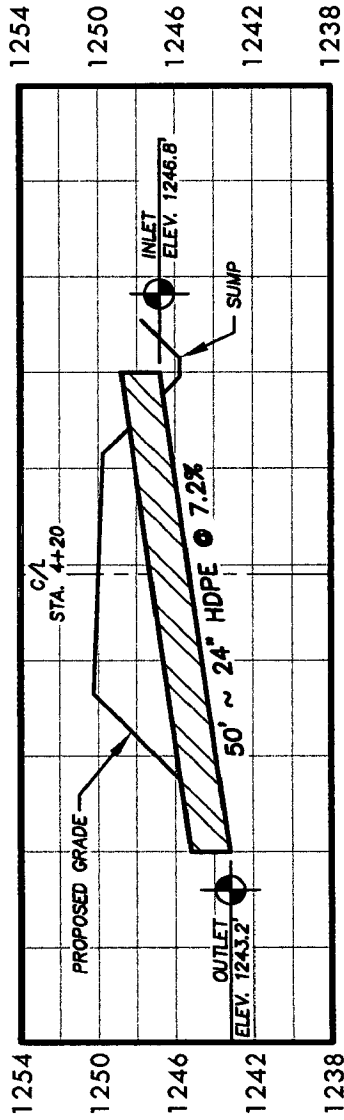


**CULVERT J3 PROFILE**

Scale: 1" = 40' Horizontal  
1" = 10' Vertical

ROCK CHANNEL PROTECTION  
10' L X 6' W X 1.5' D  
24" ROCK

Discharge (25y-24h) = 5.0 cfs  
Depth of Flow = 0.6'  
Headwater = 3.0'  
Outlet Velocity = 8.0 fps

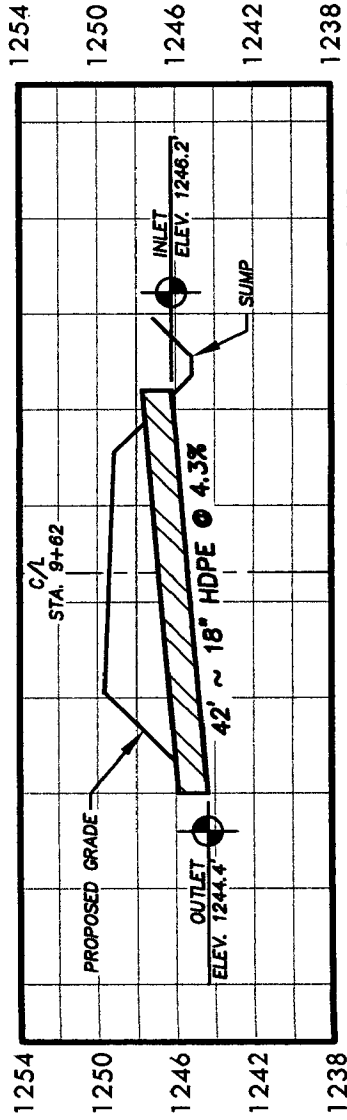


**CULVERT J1 PROFILE**

Scale: 1" = 20' Horizontal  
1" = 10' Vertical

ROCK CHANNEL PROTECTION  
15' L X 8' W X 1.5' D  
24" ROCK

Discharge (25y-24h) = 15.5 cfs  
Depth of Flow = 0.7'  
Headwater = 3.0'  
Outlet Velocity = 17.1 fps

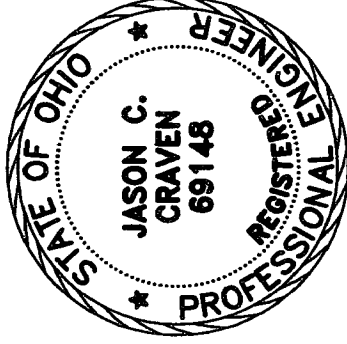


**CULVERT J2 PROFILE**

Scale: 1" = 20' Horizontal  
1" = 10' Vertical

ROCK CHANNEL PROTECTION  
10' L X 8' W X 1.5' D  
24" ROCK

Discharge (25y-24h) = 10.0 cfs  
Depth of Flow = 0.7'  
Headwater = 3.0'  
Outlet Velocity = 12.8 fps



*Jason Craven 5/1/06*  
Jason C. Craven, P.E.

ADDENDUM TO I.B.R. APPLICATION, ITEM 34

**PRIMARY ROAD J**

Applicant: AMERICAN ENERGY CORPORATION

MULLETT AIR SHAFT SITE

Township: SUNSBURY County: MONROE

Page 2 of 2 Scale: 1" = AS NOTED

Date: 03/02/06 Date Revised: Comm #02001-49

342 High St., Box 471

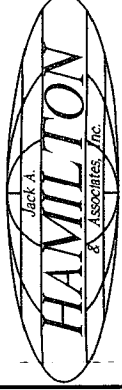
Flushing, Ohio 43977

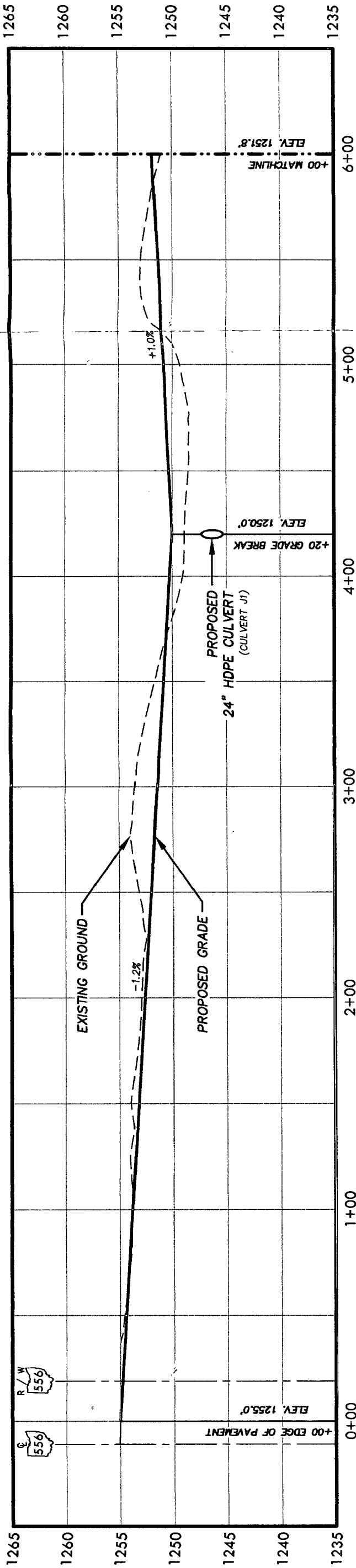
Ph: (740) 968-4947

Fax: (740) 968-4225

e-mail: hamilton@1st.net

www.hamiltonandassoc.com

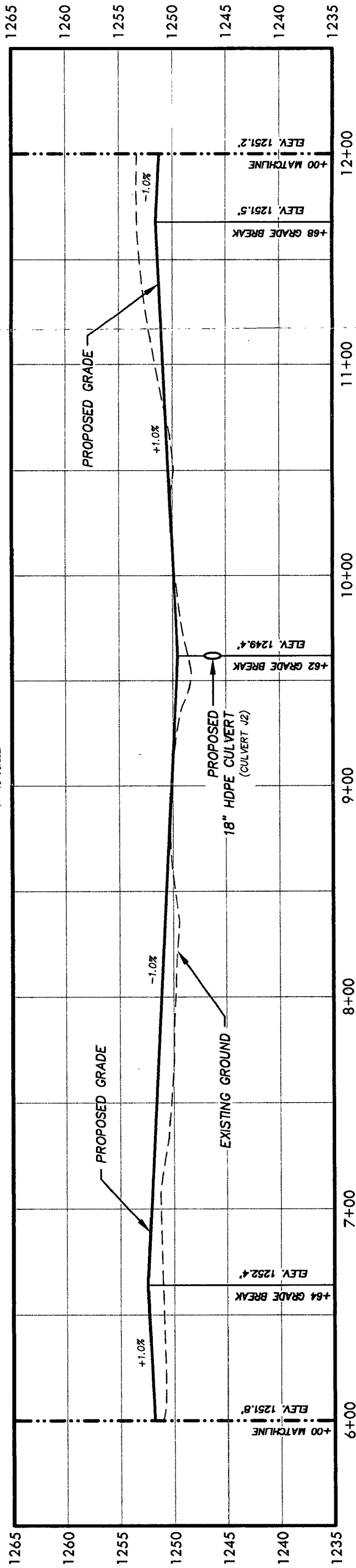




**PRIMARY ROAD J PROFILE**

Station 0+00 to 6+00

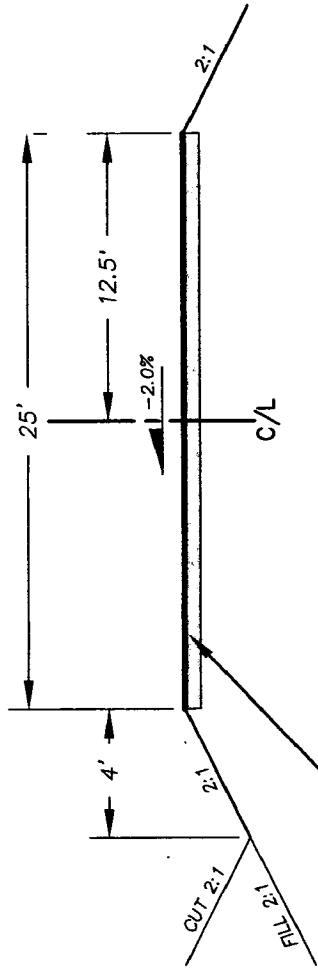
Scale: 1" = 50' Horizontal  
1" = 10' Vertical



**PRIMARY ROAD J PROFILE**

Station 6+00 to 12+00

Scale: 1" = 50' Horizontal  
1" = 10' Vertical



**AGGREGATE SURFACE**  
0007 304 AGGREGATE MATERIAL  
N.T.S.

STATE OF OHIO  
JASON C. CRAVEN  
69148  
REGISTERED PROFESSIONAL ENGINEER

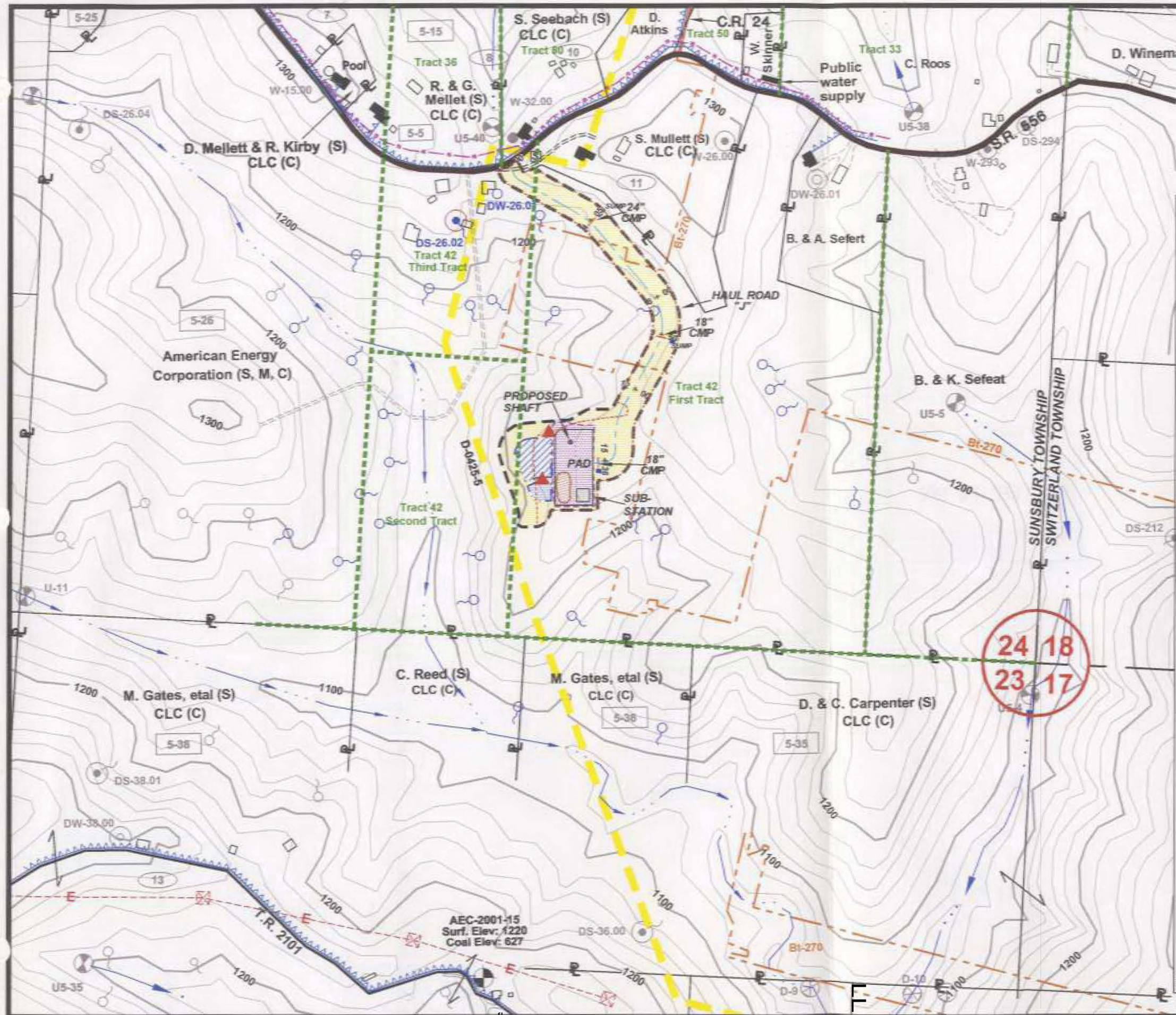
*Jason Craven* 5/1/06  
Jason C. Craven, P.E.

ADDENDUM TO I.B.R. APPLICATION, ITEM 34  
**PRIMARY ROAD J**

Applicant: AMERICAN ENERGY CORPORATION  
MULLETT AIR SHAFT SITE  
Township: SUNSBURY County: MONROE  
Page 1 of 2 Scale: 1" = AS NOTED  
Date: 03/02/06 Date Revised: Comm #02001-49

**HAMILTON**  
342 High St., Box 471  
Flushing, Ohio 43977  
Ph: (740) 968-4947  
Fax: (740) 968-4225  
e-mail: hamilton@1st.net  
www.hamiltonandassoc.com



**NOTE:**

THE PRE-MINING LAND USES ARE CROPLAND AND UNDEVELOPED LAND. THE POST-MINING LAND USE WILL BE CROPLAND. SEE LAND USE EXHIBIT MAP.

**INCIDENTAL BOUNDARY REVISION MAP**  
**PERMIT D-0425**  
**(MULLETT SHAFT SITE)**

American Energy Corporation  
 43521 Mayhugh Hill Road  
 Beallsville, Ohio 43716

- |  |   |  |  |
|--|---|--|--|
|  | AREA TO BE INCLUDED UNDER I.B.R. 7.1 ACRES. |  | ENTRANCE SIGN                          |
|  | SUMP  |  | TREATMENT FACILITY                     |
|  | CLARIFIER                                   |  | PUBLIC WATER                           |
|  | TOPSOIL STORAGE                             |  | AERIAL POWER LINE                      |
|  | S.A.D.E. : 1.2 ACRE                         |  | U.G. TELEPHONE LINE                    |
|  | CROPLAND: 5.8 AC.                           |  | FIBER OPTIC CABLE                      |
|  | COAL PARCEL/TRACT LINE                      |  | GAS LINE                               |
|  |   |  | UNDERGROUND MINE, BT-270, #8 COAL SEAM |

SITUATED IN SECTION 24, T-4 R-4,  
 SUNSBURY TOWNSHIP, MONROE COUNTY, OHIO.

LOCATED ON THE CAMERON USGS  
 7 1/2-MINUTE QUADRANGLE MAP.

SCALE: 1" = 400' CONTOUR INTERVAL: 20'

DATE PREPARED: May 10, 2006

DATE REVISED: July 18, 2006 Sept. 14, 2006  
 Sept. 7, 2006

I, THE UNDERSIGNED, HEREBY CERTIFY THAT TO THE BEST OF MY KNOWLEDGE AND BELIEF THIS MAP IS TRUE AND CORRECT.

*Jack A. Hamilton*  
 REGISTERED SURVEYOR, P.S. #6524

ACKNOWLEDGED BEFORE ME A NOTARY PUBLIC  
 THIS 15th DAY OF Sept, 2006.

*Ellen M. Greer*

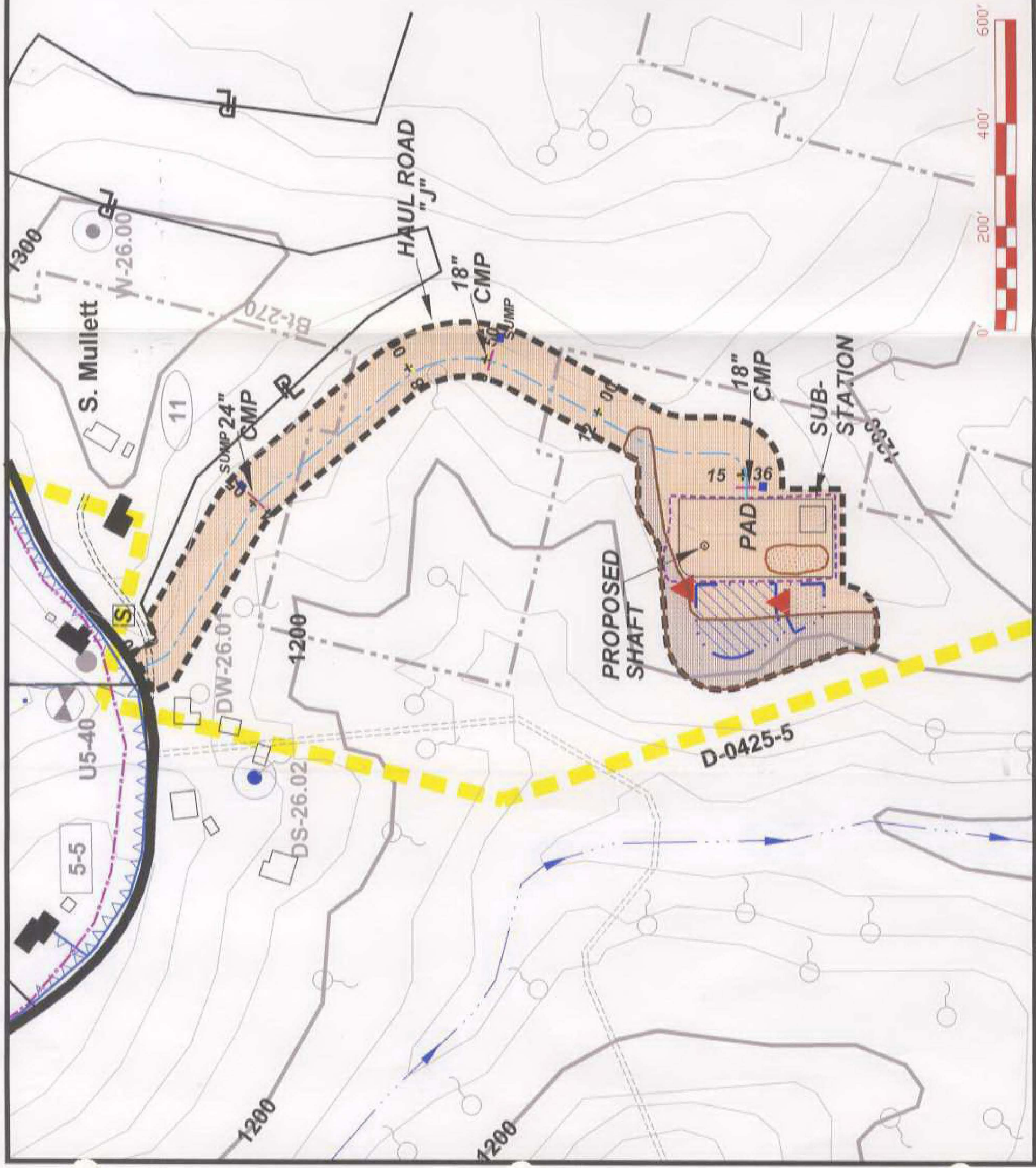
ELLEN M. GREER, Notary Public  
 State of Ohio

My Commission Expires September 23, 2006

COMM: #02001-49

**IBR-0425-11**





ADDENDUM TO I.B.R. APPLICATION, ITEM 25  
LANDUSE EXHIBIT MAP

PERMIT D-0425  
(MULLETT SHAFT SITE I.B.R.)

American Energy Corporation  
43521 Mayhugh Hill Road  
Bealsville, Ohio 43716

AREA TO BE INCLUDED UNDER  
I.B.R. 7.1 ACRES.

- 1.3 ACRES - PRE-MINING LAND USE: UNDEVELOPED LAND  
POST-MINING LAND USE: PASTURELAND
- 5.8 ACRES - PRE-MINING LAND USE: CROP LAND  
POST-MINING LAND USE: CROP LAND

SITUATED IN SECTION 24, T-4 R-4,  
SUNSBURY TOWNSHIP, MONROE COUNTY, OHIO.

LOCATED ON THE CAMERON USGS  
7 1/2 MINUTE QUADRANGLE MAP.

SCALE: 1" = 200' CONTOUR INTERVAL: 20'

DATE PREPARED: MAY 10, 2006

DATE REVISED: JULY 18, 2006

DATE REVISED: Sept. 7, 2006

I, THE UNDERSIGNED, HEREBY CERTIFY THAT TO THE BEST OF MY  
KNOWLEDGE AND BELIEF THIS MAP IS TRUE AND CORRECT.

*Jacob A. Mullett*  
REGISTERED SURVEYOR, P.S. #6524

ACKNOWLEDGED BEFORE ME A NOTARY PUBLIC  
THIS 8th DAY OF Sept., 2006.

*Ellen M. Greer*

ELLEN M. GREER, Notary Public  
State of Ohio

My Commission Expires September 23, 2006

COMM# #02001-9

For internal administrative purposes only.

This bond is submitted for the following purpose (check one and complete blanks)

- ☐ The permit issued upon Application Number  
☒ Coal mining and Reclamation Permit Number **D-0425**  
(Includes IBR's and additional bond)  
☐ Adjacent area Application Number

This designation will not change or release the surety's obligation on bond owing under Chapter 1513.

OHIO DEPARTMENT OF NATURAL RESOURCES  
DIVISION OF MINERAL RESOURCES MANAGEMENT

ODNR INVOICE # 7513

SURETY BOND NO. ISM-2282

KNOW ALL MEN BY THESE PRESENTS, that the undersigned

American Energy Corporation

(Name of Permittee or Applicant)

43521 Mayhugh Hill Road, Beallsville, OH 43716

(Address)

as principal, and Rockwood Casualty Insurance Company

of 654 Main Street, Rockwood, PA 15557

as surety, are held and firmly bound unto the State of Ohio in the penal sum of Seventeen thousand seven hundred

fifty and 00/100--- dollars ( \$ 17,750.00----- ) for the payment of which sum well and truly to be made, we  
Hereby jointly and severally bind ourselves, our heirs, administrators, executors, successors, and assigns.

**THE CONDITION OF THE ABOVE OBLIGATIONS IS SUCH** That the above named principal shall faithfully comply with all requirements of Chapter 1513 of the Ohio Revised Code, rules adopted thereunder, and the permit issued pursuant thereto.

**THIS OBLIGATION IS NOT CANCELABLE BY THE SURETY AT ANY TIME FOR ANY REASON INCLUDING, BUT NOT LIMITED TO, NONPAYMENT OF PREMIUM FOR BANKRUPTCY OF THE PRINCIPAL.** The surety will give prompt notice to the principal and TO the Chief of the Division of Mineral Resources Management of any notice received or action filed alleging the insolvency or bankruptcy of the surety, or alleging any violations of regulatory requirements which could result in suspension or revocation of the surety's license to do business. In the event the surety becomes unable to fulfill its obligations under the bond for any reason, notice shall be given immediately to the principal and to the Chief of the Division of Mineral Resources Management.

Now if said principal shall satisfactorily reclaim all lands affected by mining by said principal in the State of Ohio under a mining permit issued pursuant to Chapter 1513 of the Ohio Revised Code and faithfully perform all of the requirements of Chapter 1513 of the Revised Code, rules promulgated thereunder, and the permit issued pursuant thereto, then this obligation shall be void, otherwise it shall remain in full force and effect.

Principal:

American Energy Corporation

By:

Robert E. Murray  
President

(Official Position)

September 27, 2006  
(Date)

Surety:

Rockwood Casualty Insurance Company

By:

John P. Yediny, President & Attorney-in-Fact

09/19/06

(Date)




### CERTIFICATE OF SURETY

The undersigned authorized representative of the surety hereby certifies that the penal sum of the above bond is not in excess of the percent of the surety company's capital surplus account, and that the sum of such bond and all other surety bonds issued by the surety company on any and all permits of the principal are not in excess of the thirty percent of the surety company's capital surplus account.

Surety: Rockwood Casualty Insurance Company

09/19/06

(Date)

By:   
John P. Yediny, President & Attorney-in-Fact

### POWER OF ATTORNEY

When one signs by virtue of Power of Attorney for a surety company, such Power of Attorney must be filed with the bond. Where the Power of Attorney indicates that the person signing for the surety company is not an Ohio resident then the Ohio resident agent must countersign the bond.

COUNTERSIGNATURE  
(If applicable)

\_\_\_\_\_  
(Ohio Resident Agent)

\_\_\_\_\_  
(Address)

\_\_\_\_\_  
(Zip Code)

When this bond is replaced either in part or in its entirety, the above bonding company shall be notified at the following address:

Name: Rockwood Casualty Insurance Company, ATTN: Bond Department

Address: 654 Main Street

Rockwood, PA 15557

# ROCKWOOD CASUALTY INSURANCE COMPANY

ISM-2282

654 Main Street  
Rockwood, PA 15557

## POWER OF ATTORNEY

KNOW ALL MEN BY THESE PRESENTS: That the ROCKWOOD CASUALTY INSURANCE COMPANY, a Corporation duly organized and existing under the laws of the Commonwealth of Pennsylvania and having its principal office in the Borough of Rockwood, PA does hereby nominate, constitute and appoint:

John P. Yediny

its true and lawful agent and attorney-in-fact, to make, execute, seal and deliver for and on its behalf as surety, and as its act and deed any and all bonds, contracts, agreements of indemnity and other undertakings in suretyship (NOT INCLUDING bonds without a fixed penalty or financial guarantee) provided, however, that the penal sum of any one such instrument executed hereunder shall not exceed the sum of:

Five hundred thousand and 00/100 ----- (\$500,000.00)

This Power of Attorney is granted and is signed and sealed under and by the authority of the following Resolution adopted by the Board of Directors of ROCKWOOD CASUALTY INSURANCE COMPANY:

"RESOLVED, That the President, Senior Vice President, Vice President, Assistant Vice President, Secretary, Treasurer and each of them hereby is authorized to execute powers of attorney, and such authority can be executed by use of facsimile signature, which may be attested or acknowledged by any officer or attorney, of the Company, qualifying the attorney or attorneys named in the given power of attorney, to execute in behalf of, and acknowledge as the act and deed of the ROCKWOOD CASUALTY INSURANCE COMPANY, all bond undertakings and contracts of suretyship, and to affix the corporate seal thereto."

IN WITNESS WHEREOF, ROCKWOOD CASUALTY INSURANCE COMPANY has caused its official seal to be hereunto affixed and these presents to be signed by its duly authorized officer the 6th day of March, 2003.

ROCKWOOD CASUALTY INSURANCE COMPANY

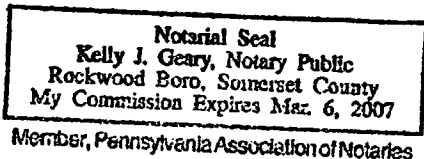
By

Philip S. Kirt  
Philip S. Kirt, Vice President

STATE OF PENNSYLVANIA  
COUNTY OF SOMERSET SS:

On this 6th day of March A.D. 2003, before me, a Notary Public of the Commonwealth of Pennsylvania, in and for the County of Somerset, duly commissioned and qualified, came THE ABOVE OFFICER OF THE COMPANY, to me personally known to be the individual and officer described in, and who executed the preceding instrument, and he acknowledged the execution of same, and being by me duly sworn, depose and said that he is the officer of the said Company aforesaid, and that the seal affixed to the preceding instrument is the Corporate Seal of said Company, and the said Corporate Seal and his signature as officer were duly affixed and subscribed to the said instrument by the authority and direction of the said corporation, and that Resolution adopted by the Board of Directors of said Company, referred to in the preceding instrument is now in force.

IN TESTIMONY WHEREOF, I have hereunto set my hand, and affixed my Official Seal at the Borough of Rockwood, the day and year first above written.



Kelly J. Geary  
(Notary Public)

I, the undersigned Officer of the ROCKWOOD CASUALTY INSURANCE COMPANY, a Pennsylvania Corporation of Rockwood, PA, do hereby certify that the original POWER OF ATTORNEY of which the foregoing is a full, true and correct copy is still in full force and effect and has not been revoked.

IN WITNESS WHEREOF, I have hereunto set my hand, and affixed the Seal of said Company, on the 19th day of September, 20 06.

Kurt D. Dpton  
Kurt D. Dpton, Sr. Vice President

AEC 08055

AMERICAN ENERGY CORPORATION

21718

INVOICE NUMBER	INVOICE DATE	INVOICE AMOUNT	AMOUNT PAID	DISCOUNT	NET AMOUNT
APPL IBR-11	09/26/06	532.50	532.50	.00	532.50
				Check Total	532.50

FOR SECURITY PURPOSES THE FACE OF THIS DOCUMENT CONTAINS A COLORED BACKGROUND AND MICROPRINTING IN THE BORDER

AMERICAN ENERGY CORPORATION

153 HIGHWAY 7 SOUTH  
POWHATAN POINT OH 43942

Fifth Third Bank of Northeastern Ohio  
1404 East Ninth Street  
Cleveland Ohio 44114

6-271  
410

DATE	CHECK NO.	VENDOR NO.
09/26/06	21718	000000001232

FIVE HUNDRED THIRTY-TWO AND 50/100 DOLLARS

AMOUNT
\$532.50



Ohio Department of Natural Resources  
Division of Mineral Resources Management  
2045 Morse Rd., Bldg. H-2  
Columbus, OH 43229-6693

AMERICAN ENERGY CORP  
43521 Mayhugh Hill Rd.  
Twp Hwy 88  
Beallsville, OH 43716

InvoiceNo: 7513  
Invoice Date: 09/22/2006  
Print Date: 09/22/2006  
Permit Type: C  
Permit Law: D No: 425  
Orig. App. No.: 277

Re: Request for Bonds and Fees

Dear Sir/Madam:

The following action has been approved or completed as of: 09/21/2006

**Application: IBR-11**

Bond and fees in the amounts shown below are due before the application can be issued. Bond may be in the form of Surety Bond, Cash Bond, Certificate of Deposit or Letter of Credit.

The fees and bond should be paid to the Division of Mineral Resources Management within thirty(30) days from the date shown above and should reference the given invoice number to insure proper credit. All checks should be payable to the State of Ohio and sent to my attention at the above address.

Bond Amount			Fee Amount		
7.10 x	\$2,500.00 =	\$17,750.00	7.1 x	\$75.00 =	\$532.50 Acreage Fee
			Total:	\$532.50	
Amount Paid:		\$0.00	Amount Paid:		\$0.00
<b>Bond Due:</b>	<b>\$17,750.00</b>		<b>Fees Due:</b>	<b>\$532.50</b>	

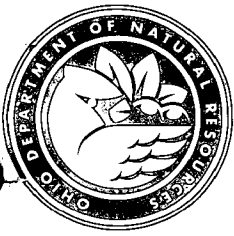
If you have any questions concerning this billing, please contact me at (614) 265-1047

Sincerely,

*Tom Hines*  
for Thomas Hines  
Division of Mineral Resources Management

cc: File  
CAMBRIDGE

**THIS INVOICE MUST BE RETURNED WITH YOUR PAYMENT**



# Ohio Department of Natural Resources

TED STRICKLAND, GOVERNOR

SEAN D. LOGAN, DIRECTOR

## Division of Mineral Resources Management

Scott R. Kell, Acting Chief

2045 Morse Road – Bldg. H3

Columbus, OH 43229-6693

Phone: (614) 265-6633 Fax: (614) 265-7998

April 16, 2007

American Energy Corporation  
43521 Mayhugh Hill Road  
Beallsville, OH 43716

Re: Historic and Prehistoric Properties Clearance  
IBR-0425-14 Permit D-0425 0.4 Acre

Dear Applicant:

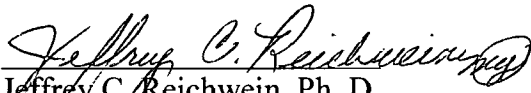
Your proposed permit area has been given a historic and prehistoric properties clearance by the Division of Mineral Resources Management. This clearance is based on the following reasons:

The proposed 0.4 acre incidental boundary revision (IBR) has a low probability of containing eligible National Register historic properties. An on site review of this IBR was performed by me. It was 100% surface disturbed by previous mining activity.

Therefore no further coordination on historic and prehistoric properties with the Division will be necessary for this project unless the project size increases or additional information is received by the Division on the presence of historic or prehistoric properties in the project area.

If you have any questions regarding this matter, please contact me at (614) 265-6633.

Sincerely,

  
Jeffrey C. Reichwein, Ph. D.

Archaeologist

Division of Mineral Resources Management

JCR:my

cc: Ohio Historic Preservation Office  
Jack A. Hamilton and Associates Inc.  
Scott Stiteler: Cambridge District Office  
John Puterbaugh: Cambridge District Office  
Permit File  
Archaeologist File

ohiodnr.com



AEC 08058

For internal administrative purposes only:

This bond is submitted for the following purpose:  
(check one and complete blank(s))

- ☐ The permit issued upon Application No. \_\_\_\_\_
- ☒ Coal Mining and Reclamation Permit No. D-0425  
(Includes IBR's and additional bond)
- ☐ Adjacent Area Application No. \_\_\_\_\_

This designation will not change or release the surety's obligation on bond owing under Chapter 1513.

RECEIVED

JUN 11 2007

PAUL PICCOLINI

**OHIO DEPARTMENT OF NATURAL RESOURCES  
DIVISION OF MINERAL RESOURCES MANAGEMENT  
SURETY BOND NO. ISM-2345**

KNOW ALL MEN BY THESE PRESENTS, that the undersigned

**American Energy Corporation**

**43521 Mayhugh Hill Road,  
Beallsville, OH 43716**

(Name of Permittee or Applicant)

(Address)

as principal, and **Rockwood Casualty Insurance Company**

of **654 Main Street, Rockwood, PA 15557**

as surety, are held and firmly bound unto the State of Ohio in the penal sum of

**Two thousand two hundred fifty and 00/100-----**

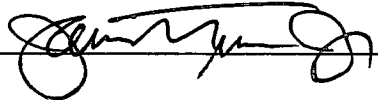
(\$ **2,250.00** ) for the payment of which sum well and truly to be made, we hereby jointly and severally bind ourselves, our heirs, administrators, executors, successors, and assigns.

THE CONDITION OF THE ABOVE OBLIGATIONS IS SUCH, that the above named principal shall faithfully comply with all requirements of Chapter 1513 of the Ohio Revised Code, rules adopted thereunder, and the permit issued pursuant thereto.

**THIS OBLIGATION IS NOT CANCELABLE BY THE SURETY AT ANY TIME FOR ANY REASON INCLUDING, BUT NOT LIMITED TO, NONPAYMENT OF PREMIUM OR BANKRUPTCY OF THE PRINCIPAL.** The surety will give prompt notice to the principal and **TO** the Chief of the Division of Mineral Resources Management of any notice received or action filed alleging the insolvency or bankruptcy of the surety, or alleging any violations of regulatory requirements that could result in suspension or revocation of the surety's license to do business. In the event the surety becomes unable to fulfill its obligations under the bond for any reason, notice shall be given immediately to the principal and to the Chief of the Division of Mineral Resources Management.

Now if said principal shall satisfactorily reclaim all lands affected by mining by said principal in the State of Ohio under a mining permit issued pursuant to the Chapter 1513 of the Ohio Revised Code and faithfully perform all of the requirements of Chapter 1513 of the Revised Code, rules promulgated thereunder, and the permit issued pursuant thereto, then this obligation shall be void, otherwise it shall remain in full force and effect.

Principal American Energy Corporation 06/01/07  
(Date)

By:   
Treasurer  
(Official Position)

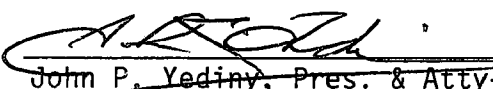
Surety Rockwood Casualty Insurance Company 06/01/07  
(Date)

By:   
John P. Yediny, Pres. & Atty-in-Fact

Certificate of Surety

The undersigned authorized representative of the surety hereby certifies that the penal sum of the above bond is not in excess of ten percent of the surety company's capital surplus account, and that the sum of such bond and all other surety bonds issued by the surety company on any and all the permits of the principal are not in excess of thirty percent of the surety company's capital surplus account.

Surety Rockwood Casualty Insurance Company 06/01/07  
(Date)

By:   
John P. Yediny, Pres. & Atty-in-Fact  
Power of Attorney

When one signs by virtue of Power of Attorney for a surety company, such Power of Attorney must be filed with the bond. Where the Power of Attorney indicates that the person signing for the surety company is not an Ohio resident then the Ohio resident agent must countersign the bond.

COUNTERSIGNATURE

(If Applicable)

\_\_\_\_\_  
(Ohio Resident Agent)

\_\_\_\_\_  
(Address)

\_\_\_\_\_  
(Zip Code)

When this bond is replaced either in part or in its entirety, the above bonding company shall be notified at the following address:

Name: Rockwood Casualty Insurance Company

Address: 654 Main Street  
Rockwood, PA 15557

# ROCKWOOD CASUALTY INSURANCE COMPANY

ISM-2345

654 Main Street  
Rockwood, PA 15557

## POWER OF ATTORNEY

KNOW ALL MEN BY THESE PRESENTS: That the ROCKWOOD CASUALTY INSURANCE COMPANY, a Corporation duly organized and existing under the laws of the Commonwealth of Pennsylvania and having its principal office in the Borough of Rockwood, PA does hereby nominate, constitute and appoint:

John P. Yediny

its true and lawful agent and attorney-in-fact, to make, execute, seal and deliver for and on its behalf as surety, and as its act and deed any and all bonds, contracts, agreements of indemnity and other undertakings in suretyship (NOT INCLUDING bonds without a fixed penalty or financial guarantee) provided, however, that the penal sum of any one such instrument executed hereunder shall not exceed the sum of:

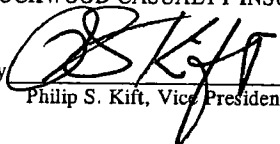
Five hundred thousand and 00/100----- (\$500,000.00)

This Power of Attorney is granted and is signed and sealed under and by the authority of the following Resolution adopted by the Board of Directors of ROCKWOOD CASUALTY INSURANCE COMPANY:

"RESOLVED, That the President, Senior Vice President, Vice President, Assistant Vice President, Secretary, Treasurer and each of them hereby is authorized to execute powers of attorney, and such authority can be executed by use of facsimile signature, which may be attested or acknowledged by any officer or attorney, of the Company, qualifying the attorney or attorneys named in the given power of attorney, to execute in behalf of, and acknowledge as the act and deed of the ROCKWOOD CASUALTY INSURANCE COMPANY, all bond undertakings and contracts of suretyship, and to affix the corporate seal thereto."

IN WITNESS WHEREOF, ROCKWOOD CASUALTY INSURANCE COMPANY has caused its official seal to be hereunto affixed and these presents to be signed by its duly authorized officer the 30th day of March, 2007.

ROCKWOOD CASUALTY INSURANCE COMPANY

By   
Philip S. Kirt, Vice President

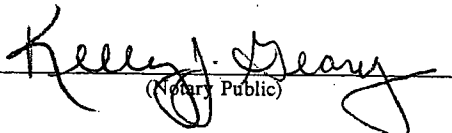
STATE OF PENNSYLVANIA  
COUNTY OF SOMERSET SS:

On this 30th day of March, A.D. 2007, before me, a Notary Public of the Commonwealth of Pennsylvania, in and for the County of Somerset, duly commissioned and qualified, came THE ABOVE OFFICER OF THE COMPANY, to me personally known to be the individual and officer described in, and who executed the preceding instrument, and he acknowledged the execution of same, and being by me duly sworn, deposed and said that he is the officer of the said Company aforesaid, and that the seal affixed to the preceding instrument is the Corporate Seal of said Company, and the said Corporate Seal and his signature as officer were duly affixed and subscribed to the said instrument by the authority and direction of the said corporation, and that Resolution adopted by the Board of Directors of said Company, referred to in the preceding instrument is now in force.

IN TESTIMONY WHEREOF, I have hereunto set my hand, and affixed my Official Seal at the Borough of Rockwood, the day and year first above written.

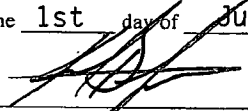
COMMONWEALTH OF PENNSYLVANIA

Notarial Seal  
Kelly J. Geary, Notary Public  
Rockwood Boro, Somerset County  
My Commission Expires March 23, 2011  
Member, Pennsylvania Association of Notaries

  
(Notary Public)

I, the undersigned Officer of the ROCKWOOD CASUALTY INSURANCE COMPANY, a Pennsylvania Corporation of Rockwood, PA, do hereby certify that the original POWER OF ATTORNEY of which the foregoing is a full, true and correct copy is still in full force and effect and has not been revoked.

IN WITNESS WHEREOF, I have hereunto set my hand, and affixed the Seal of said Company, on the 1st day of June, 2007.

  
Kurt D. Tipton, Sr. Vice President

AEC 08061

342 High St., Box 471  
Flushing, OH 43977  
Ph: (740) 968-4947  
Fax: (740) 968-4225  
E-mail: hamilton@1st.net  
www.hamiltonandassoc.com



Civil Engineering  
Land Surveying  
Mine Permitting  
GIS Data Services  
Land Development  
Global Positioning Systems

## LETTER OF TRANSMITTAL

TO: Mr. Brent Heavilin  
ODNR, Div. of Mineral Resources Mngt.  
2050 East Wheeling Ave.  
Cambridge, Ohio 43725

DATE: June 20, 2006  
COMM.# 02001-49  
RE: I.B.R.

WE ARE SENDING: ☒ Attached ☐ Under Separate Cover

BY THE FOLLOWING METHOD: Hand Delivery

DATE	NO.	DESCRIPTION
	4	I.B.R. Packages (Includes One Original)

THESE ARE TRANSMITTED: ☒ For Your Use ☐ As Requested ☒ For Review/Comment ☐ Returned

REMARKS: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

COPY TO File  
American Energy Corporation  
\_\_\_\_\_

SIGNED Suzie Utter  
Suzie Utter

AEC 08062

OHIO DEPARTMENT OF NATURAL RESOURCES  
DIVISION OF MINERAL RESOURCES MANAGEMENT

APPLICATION FOR INCIDENTAL BOUNDARY REVISION (IBR)  
(This form cannot be utilized for the removal of coal)

1. Applicant's Name: American Energy Corporation
2. Address: 43521 Mayhugh Hill Road  
City, State, Zip: Beallsville, Ohio 43716  
Telephone: 740-926-9152
3. Coal Mining Permit Number: D-0425 Mine Name Century Mine
4. Additional acres to be permitted: 7.1 MSHA # 33-01070
5. Acres to be deleted 0

6. Has this acreage been affected under this permit?

☐ Yes, ☒ No If "yes," list violation number(s).

Has this acreage previously been affected by other activities other than this permit?

☐ Yes, ☒ No If "yes," describe:

7. Describe the reason this additional acreage is required.

**An additional bleeder shaft is necessary for the Century Mine.**

8. Describe the activities to be conducted on this area.

**Construction of a bleeder shaft, access road, sumps, pond, topsoil storage, temporary spoil storage, and electric sub-station.**

9. List all surface and mineral owners within the IBR area.

Surface and Mineral Owner Names	County	Township	Section	Lot	T-	R-
<b>Name American Energy Corporation</b> <b>Address 43521 Mayhugh Hill Rd.</b> <b>City Beallsville</b> <b>State OH Zip 43716</b> Surface <input checked="" type="checkbox"/> Mineral <input checked="" type="checkbox"/>	<b>Monroe</b>	<b>Sunsbury</b>	<b>24</b>	<b>n/a</b>	<b>4</b>	<b>4</b>
Name _____ Address _____ City _____ State _____ Zip _____ Surface <input type="checkbox"/> Mineral <input type="checkbox"/>						
Name _____ Address _____ City _____ State _____ Zip _____ Surface <input type="checkbox"/> Mineral <input type="checkbox"/>						
Name _____ Address _____ City _____ State _____ Zip _____ Surface <input type="checkbox"/> Mineral <input type="checkbox"/>						
Name _____ Address _____ City _____ State _____ Zip _____ Surface <input type="checkbox"/> Mineral <input type="checkbox"/>						

Application for an Incidental Boundary Revision  
 Revised 02/06  
 DNR-744-9005



10. Is any owner, holder or purchaser listed in item 9, a business entity other than a single proprietorship?

Yes ☒ No ☐ If "yes," submit Other Business Entities.

11. Is any part of this IBR application area adjacent (within 100') to any lands, which are not owned by those persons identified in item 9?

Yes ☒ No ☐ If "yes," submit Adjacent Owners **S. Seebach, S. Mullet, and R. & G. Mellet**

12. Identify the right of entry documentation that is being provided that allows for coal mining operations on this IBR area:

☐ A copy of the right-of-entry documents attached as addenda, or

☒ A Right-of-Entry Affidavit

13. Has the private mineral estate (coal) been severed from the private surface estate?

Yes ☐ No ☒ If "yes," indicate which documentation is provided:

☐ Surface Owners' Consent

☐ A copy of the document of conveyance that allows the proposed activities

☐ If the document of conveyance does not expressly allow the proposed activities, documentation that under state law the applicant has the legal authority to conduct the proposed activities.

14. Does the IBR application area include any area dedicated as a nature preserve pursuant to Chapter 1517 Ohio Revised Code?

Yes ☐ No ☒ If "yes," submit proof of valid existing rights.

15. Does the IBR application area include any area within one thousand feet of the waterlines of any wild, scenic or recreational river dedicated pursuant to Chapter 1501 Ohio Revised Code?

Application for an Incidental Boundary Revision

Revised 02/06

DNR-744-9005

OHIO DEPARTMENT OF NATURAL RESOURCES  
DIVISION OF MINERAL RESOURCES MANAGEMENT

OTHER BUSINESS ENTITIES

Applicant's Name **American Energy Corporation**

A separate attachment is to be submitted for each business entity.

Name of business entity **American Energy Corporation**

Statutory agent **A & H Statutory Corp.**

Street Address **1100 Huntington Bldg.**

City **Cleveland** State **OH** Zip **44115**

Person's name **Robert E. Murray** Position **President**

Street Address **43521 Mayhugh Hill Road**

City **Beallsville** State **OH** Zip **43716**

Person's name **Murray Energy Corporation** Position **Sole Shareholder**

Street Address **43521 Mayhugh Hill Road**

City **Beallsville** State **OH** Zip **43716**

Person's name **Michael O. McKown** Position **Secretary**

Street Address **43521 Mayhugh Hill Road**

City **Beallsville** State **OH** Zip **43716**

Person's name  Position

Street Address

City  State  Zip

Part 1: Section C  
Page 1 of 4

OHIO DEPARTMENT OF NATURAL RESOURCES  
DIVISION OF MINERAL RESOURCES MANAGEMENT

OTHER BUSINESS ENTITIES

Applicant's Name **American Energy Corporation**

A separate attachment is to be submitted for each business entity.

Name of business entity **American Energy Corporation**

Statutory agent **See page 1**

Street Address

City State Zip

Person's name **James R. Turner** Position **Treasurer**

Street Address **43521 Mayhugh Hill Road**

City **Beallsville** State **OH** Zip **43716**

Person's name **Robert L. Pusock** Position **Assistant Treasurer**

Street Address **43521 Mayhugh Hill Road**

City **Beallsville** State **OH** Zip **43716**

Person's name Position

Street Address

City State Zip

Person's name Position

Street Address

City State Zip

Part 1: Section C  
Page 2 of 4

OHIO DEPARTMENT OF NATURAL RESOURCES  
DIVISION OF MINERAL RESOURCES MANAGEMENT

OTHER BUSINESS ENTITIES

Applicant's Name **American Energy Corporation**

A separate attachment is to be submitted for each business entity.

Name of business entity **Murray Energy Corporation**

Statutory agent **Ct. Corporation**

Street Address **1300 East Nineth Street**

City **Cleveland** State **OH** Zip **44114**

Person's name **Robert E. Murray** Position **Chairman CEO, & Shareholder**

Street Address **29325 Chagrin Blvd., Suite 300**

City **Pepper Pike** State **OH** Zip **44122**

Person's name **John R. Forrelli** Position **Vice President**

Street Address **29325 Chagrin Blvd., Suite 300**

City **Pepper Pike** State **OH** Zip **44122**

Person's name **Robert D. Moore** Position **Vice President**

Street Address **29325 Chagrin Blvd., Suite 300**

City **Pepper Pike** State **OH** Zip **44122**

Person's name  Position

Street Address

City  State  Zip

Part 1: Section C  
Page 3 of 4

OHIO DEPARTMENT OF NATURAL RESOURCES  
DIVISION OF MINERAL RESOURCES MANAGEMENT

OTHER BUSINESS ENTITIES

Applicant's Name **American Energy Corporation**

A separate attachment is to be submitted for each business entity.

Name of business entity **Murray Energy Corporation**

Statutory agent **Ct. Corporation**

Street Address **1300 East Nineth Street**

City **Cleveland** State **OH** Zip **44114**

Person's name **P. Bruce Hill** Position **Vice President - Human Resources**

Street Address **29325 Chagrin Blvd., Suite 300**

City **Pepper Pike** State **OH** Zip **44122**

Person's name **Michael O. McKown** Position **Secretary**

Street Address **29325 Chagrin Blvd., Suite 300**

City **Pepper Pike** State **OH** Zip **44122**

Person's name **[REDACTED]** Position **[REDACTED]**

Street Address **[REDACTED]**

City **[REDACTED]** State **[REDACTED]** Zip **[REDACTED]**

Person's name **[REDACTED]** Position **[REDACTED]**

Street Address **[REDACTED]**

City **[REDACTED]** State **[REDACTED]** Zip **[REDACTED]**

Part 1: Section C  
Page 4 of 4

OHIO DEPARTMENT OF NATURAL RESOURCES  
DIVISION OF MINERAL RESOURCES MANAGEMENT

ADJACENT OWNERS

Applicant's Name **American Energy Corporation**

Name of owner **S. Seebach**

Address **46646 State Route 556**

City **Beallsville** State **OH** Zip **43716**

☒ Surface, ☐ Coal, ☒ Non-Coal Mineral

Name of owner **S. Mullet**

Address **3064 U.S. Highway 50**

City **Beallsville** State **OH** Zip **43716**

☒ Surface, ☐ Coal, ☒ Non-Coal Mineral

Name of owner **R. & G. Mellet**

Address **46534 State Route 556**

City **Beallsville** State **OH** Zip **43716**

☒ Surface, ☐ Coal, ☒ Non-Coal Mineral

Name of owner

Address

City State Zip

☐ Surface, ☐ Coal, ☐ Non-Coal Mineral

Name of owner

Address

City State Zip

☐ Surface, ☐ Coal, ☐ Non-Coal Mineral

Part 1: Section C

OHIO DEPARTMENT OF NATURAL RESOURCES  
DIVISION OF MINERAL RESOURCES MANAGEMENT

RIGHT-OF-ENTRY AFFIDAVIT

Applicant's Name **American Energy Corporation**

RIGHT-OF-ENTRY AFFIDAVIT

State of Ohio, **Belmont** County, ss. **James R. Turner** being first duly sworn, says that the following described documents convey to the applicant the legal right explained below and is a subject of litigation as shown below.

Type of document **Deed**

Execution Date **June 15, 2006**

Expiration Date **N/A**

Parties: From **S. Mullett to American Energy Corporation**

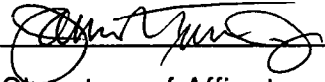
Description of land: Number of Acres **150.639**

County **Monroe** Township **Sunsbury**

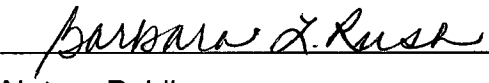
Section **24** Lot

Explanation of legal rights claimed **All rights of ownership.**

Pending litigation Yes ☐ No ☒

<u></u>	<u>6-19-06</u>	<u>Treasurer</u>
Signature of Affiant	Date	Position

Sworn to before me and subscribed in my presence this 19th day of, June, 2006

  
Notary Public



**BARBARA L. RUSH**  
NOTARY PUBLIC, STATE OF OHIO  
MY COMMISSION EXPIRES 9-09-09

Part 1: Section C

Yes ☐ No ☒ If "yes," submit proof of valid existing rights.

16. Does the IBR application area include any area within the boundaries of the following systems: national park, national wildlife refuge, national trails, national wilderness preservation, national recreational areas or wild and scenic rivers or river corridors including those rivers under study?

Yes ☐ No ☒ If "yes," submit proof of valid existing rights.

17. Does the IBR application area include any federally owned lands within the boundaries of any national forest?

Yes ☐ No ☒ If "yes," submit approval of U.S. Secretary of Interior or proof of valid existing rights.

18. Will operations conducted within this IBR adversely affect any publicly owned park or places included on the National Register of Historic Places?

Yes ☐ No ☒ If "yes," submit joint approval from the chief and the federal, state or local agency with jurisdiction over the park or places or proof of valid existing rights and describe the measures to be used to prevent or minimize these impacts.

19. Will operations conducted within this IBR affect land within one hundred feet of the outside right-of-way of a public road or result in mining through a public road?

Yes ☐ No ☒ If "yes," list the public road(s) in the space below and submit Public Road Consent or proof of valid existing rights.

20. Will operations conducted within this IBR affect land within three hundred feet of any occupied dwelling?

Yes ☒ No ☐ If "yes," list the name of the owner(s) in the space below and submit Occupied Dwelling Consent or proof of valid existing rights.

**S. Mullett**

**S. Seebach**

**See attached addenda for proof of valid existing rights.**

Application for an Incidental Boundary Revision

Revised 02/06

DNR-744-9005



Addendum to I.B.R., Item 20  
American Energy Corporation

American Energy Corporation claims valid existing right based on deed Volume 90 Page 142 executed June 28, 2002 and Memorandum of Lease Volume 112 Page 161 which includes surface rights for parcel number 50. American Energy Corporation further states that this coal is needed for, and immediately adjacent to, the ongoing coal mining operation which began in 1967 for which all mine plan approvals and permits were obtained prior to August 3, 1977 as the same is stated in original permit D-0425 in Part 1, Page 11, under Item D(6).

Transfer Not Necessary  
Date 6-28-02 Sec. 319.202 Completed With  
Pandora J. Neuhart, Auditor, Monroe Co., Ohio  
By MS Sec. 319.202

031135

MONROE CO. RECORD OF

VOL. 90 PAGE 142

RECEIVED

02 JUN 28 PM 2:41

RECORDED June 28, 2002  
MARTHA LOUISE REIDRECORDER FEE \$170.00

VOL 0090 PAGE 142

## LIMITED WARRANTY DEED

KNOW ALL MEN BY THESE PRESENTS: That NORTH AMERICAN COAL ROYALTY COMPANY (formerly known as Nortex Royalty Company), a Delaware corporation, with offices at 14785 Preston Road, Suite 1100, Dallas, Texas 75254-7891, the GRANTOR, in consideration of the sum of Ten Dollars (\$10.00) and other valuable consideration to it paid by the CONSOLIDATED LAND COMPANY, an Ohio corporation, whose tax mailing address is 29325 Chagrin Boulevard, Suite 300, Pepper Pike, Ohio 44122, the GRANTEE, the receipt and sufficiency of which is hereby acknowledged, does hereby GRANT, BARGAIN, SELL and CONVEY to said GRANTEE, with limited warranty covenants to the GRANTEE, its successors and assigns, all of the remaining coal, specifically including, but not limited to, the Pittsburgh No. Eight (8) seam or vein of coal contained in or underlying the tracts of land more particularly described on Exhibit "A" attached hereto and made a part hereof; EXCEPT all coal lying in and within three hundred (300) feet of the boundaries of the old mine workings of Bellaire Corporation's Powhatan No. 1 Mine more particularly described on Exhibit "B" attached hereto and made a part hereof; and EXCEPT all coal lying in and within three hundred (300) feet of the boundaries of the old mine workings of Quarto Mining Company's Quarto No. 4 Mine more particularly described on Exhibit "C" attached hereto and made a part hereof.

TOGETHER with such mining rights and other rights and privileges pertinent to the tracts set forth on Exhibit "A" (hereinafter called the "Premises").

TO HAVE AND TO HOLD such Premises, unto the said GRANTEE, its successors and assigns, forever, EXCEPT AND SUBJECT as hereinbefore provided, and expressly SUBJECT to all legal highways.

AND the said GRANTOR hereby covenants with the said GRANTEE that said Premises are free and clear from all encumbrances by, from or through the said GRANTOR, and except and subject as hereinbefore provided, and that the GRANTOR will warrant and defend the same to the GRANTEE, only as against the lawful claims and demands of all persons claiming by, through or under the said GRANTOR herein, but against none other.

IN WITNESS WHEREOF, GRANTOR has caused its name to be hereunto subscribed by its duly authorized officers this 27<sup>th</sup> day of June, 2002.

VOL 0090 PAGE 143

Signed and acknowledged in the presence of:

NORTH AMERICAN COAL ROYALTY  
COMPANY, a Delaware corporation

Nancy F. Lirney  
David G. Mitchell

By Thomas A. Koza  
Thomas A. Koza, President

Nancy F. Lirney  
David G. Mitchell

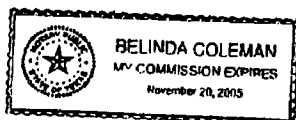
By Andrew S. Good  
Andrew S. Good, Secretary

STATE OF TEXAS,

COUNTY OF DALLAS, SS:

On this the 27<sup>th</sup> day of June, 2002 appeared before me, Thomas A. Koza, who acknowledged himself to be President of North American Coal Royalty Company, a Delaware corporation, and that as such officer being authorized to do so, executed the foregoing instrument for the purposes therein contained by signing the name of the corporation as President.

IN WITNESS WHEREOF, I hereunto set my hand and Notarial seal.



Belinda Coleman  
Notary Public

My Commission Expires: 11-20-05

STATE OF TEXAS,

COUNTY OF DALLAS, SS:

On this the 27<sup>th</sup> day of June, 2002 appeared before me, Andrew S. Good, who acknowledged himself to be Secretary of North American Coal Royalty Company, a Delaware corporation, and that as such officer being authorized to do so, executed the foregoing instrument for the purposes therein contained by signing the name of the corporation as Secretary.

IN WITNESS WHEREOF, I hereunto set my hand and Notarial seal.



Belinda Coleman  
Notary Public

My Commission Expires: 11-20-05

This Instrument Prepared By: Elizabeth L. Glick  
Attorney at Law  
St. Clairsville, Ohio

(MACROCLIC GADDIS TRAC'S DREN)

VOL 0090 PAGE 144

AEC 08076

**PARCEL THIRTEEN**  
(PARCEL FORTY-FIVE - LEMUEL READ TRACTS)

Situated in the Township of Sunbury, County of Monroe and State of Ohio.

FIRST TRACT:- The Southeast Quarter of the Southwest Quarter of Section 22, Township 4, Range 4, Containing 40 acres.

SECOND TRACT:- Being a part of the Southeast Quarter of Section 22, Township 4, Range 4, commencing for the same at a center post on the East and West Section line; thence North 80 rods; thence East 3 rods to the center of a road; thence in a Southeast direction with said road 35 rods to the second crossing of the run; thence with meanderings of said run 55 rods and 13 feet to the Section line; thence West 7 rods to the place of beginning, containing 7 acres, more or less, CONTAINING in all 47 acres, more or less.

Together with the free and uninterrupted right of way into, upon and under said land, at such points, and in such manner as may be proper and necessary for the purpose of digging, mining, coking, draining and ventilating, and carrying away said coal, etc. (hereby waiving all surface damages or damages of any sort arising therefrom, or from the removal of all of said coal). Together with the privilege of mining and removing through said described premises other coal belonging to the grantee, his heirs and assigns, or which may hereafter be acquired by said grantee, his heirs and assigns. Said grantors, for themselves, and their heirs and assigns, reserve the right to drill and operate through said coal for oil and gas. It is understood and agreed between the parties hereto that the said grantors and their heirs shall be paid at the rate of \$100.00 per acre for all surface land taken and used for mining said coal by said grantee, his heirs or assigns.

Part of Auditor's Reference No. 24-035003

Prior Deed Reference: Deed Volume 199, Page 364  
Parcel 45  
North American Coal Corporation to  
Norlex Royalty Company

**PARCEL NO. FOURTEEN**  
(PARCEL FIFTY- ISAAC TAYLOR TRACTS)

Situated in the Township of Sunbury, County of Monroe and State of Ohio.

Being a part of Section 24, Township 4, Range 4, and beginning for the same at a point which is distant West 133 rods and 8 links from a stone at the Northeast corner of said Section 24 and South 32 rods and 10 links from the North boundary of Section 24 which said point is the beginning point for said Tract No. 50; thence South  $8\frac{3}{4}^{\circ}$  West 11.32 chains; thence South 19.42 chains to a stone; thence East 1.25 chains to a small ravine; thence up said ravine South  $3\frac{1}{4}^{\circ}$  East 11.25 chains to middle of the public road; thence with said public road North  $53\frac{1}{4}^{\circ}$  East 2.63 chains; thence North  $49\frac{1}{2}^{\circ}$  East 2.50 chains; thence North  $71^{\circ}$  East 1.50 chains; thence North  $65^{\circ}$  East 1.85 chains; thence North  $49^{\circ}$  East 2 chains; thence North  $35^{\circ}$  East 1.50 chains; thence North  $47\frac{1}{4}^{\circ}$  East 2 chains; thence South  $50^{\circ}$  East 1.50 chains; thence South  $44\frac{1}{4}^{\circ}$  East 2 chains; thence South  $67\frac{1}{4}^{\circ}$  East 1.50 chains; thence South  $84^{\circ}$  East 1.80 chains; thence North 37 chains; thence West 17.22 chains to the place of beginning, containing 59 acres, more or less.

Together with the free and uninterrupted right of way into, upon and under said land, at such points, and in such manner as may be proper and necessary for the purpose of digging, mining, coking, draining and ventilating, and carrying away said coal, etc. (hereby waiving all surface damages or damages of any sort arising therefrom, or from the removal of all of said coal). Together with the privilege of mining and removing through said described premises other coal belonging to the grantee, his heirs and assigns, or which may hereafter be acquired by said

grantee, his heirs and assigns. Said grantors, for themselves, and their heirs and assigns, reserve the right to drill and operate through said coal for oil and gas. It is understood and agreed between the parties hereto that the said grantors and their heirs shall be paid at the rate of \$100.00 per acre for all surface land taken and used for mining said coal by said grantee, his heirs or assigns.

Part of Auditor's Reference No. 24-035005

Prior Deed Reference: Deed Volume 199, Page 364  
Parcel 50  
North American Coal Corporation to  
Norlex Royalty Company

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**PARCEL FIFTEEN**  
(PARCEL FIFTY-FIVE - CHARLES HEADLEY TRACTS)

Situated in Sunbury Township, County of Monroe and State of Ohio.

FIRST TRACT:- The Northwest Quarter of the Southeast Quarter of Section 22, Township 4, Range 4, Containing 40 acres, more or less.

SECOND TRACT:- Also a part of the Southwest Quarter of the Northeast Quarter of Section 22, Township 4, Range 4, beginning for the same at the Southwest corner of the Northeast Quarter or in the center of said Section 22; running thence North 40 rods to a stake; thence East 80 rods to a stake; thence South 40 rods to a stake; thence West 80 rods to the place of beginning. Containing 20 acres, more or less.

THIRD TRACT:- The middle part of the South half of the Southeast Quarter of Section 22, Township 4, Range 4, beginning for the same at the Southeast corner of the Southwest Quarter of the Southeast Quarter of said Section 22, running thence North 87 1/2 degrees West, 8 1/2 chains to a stake in the run-witness, a red oak 12 inches in diameter, leaning North 74 1/2 degrees East, distance 9 links; thence down said run with its meandering North 40 degrees West, 2 1/2 chains; thence North 54 1/2 degrees West, 2.90 chains, thence South 73 1/2 degrees West, 2.87 chains; thence North 56 1/2 degrees West, 40 links to a stake in the run; thence North 3 degrees West, 2.08 chains to a stake in the road; thence with said road North 16 1/4 degrees West, 4.10 chains; thence leaving said road North 6 degrees East, 2.40 chains; thence North 43 1/4 degrees West, 1 1/4 chains to a stake in the road; thence with said road North 10 degrees East, 4.34 chains; thence North 35 degrees West, 4 chains; thence North 22 1/2 degrees West 73 links to the half quarter section line; thence with said line South 87 1/2 degrees East, 17.14 chains to a stake in the center of the road; thence with said road South 41 degrees East, 4.52 chains; thence South 38 degrees East, 1 1/2 chains; thence South 32 degrees East, 4.98 chains; thence South 23 1/4 degrees East, 1 chain; thence South 2 degrees West, 7.27 chains; thence South 12 degrees East, 3.52 chains to a stake in said road and in the section line; thence with said Section line North 87 1/2 degrees West, 4.84 chains to the place of beginning. Containing 38 acres and 30 perches.

FOURTH TRACT:- Being the Northeast Quarter of the Northwest Quarter of Section 22, Township 4, Range 4, Containing 40 acres more or less.

FIFTH TRACT:- The Southeast Quarter of the Northwest Quarter of Section 22, Township 4, Range 4, containing 40 acres, more or less; excepting therefrom the following described premises: commencing for the same 11 rods and 9 links West of the Northeast corner of the Southeast Quarter of the Northwest Quarter of Section 22, Township 4, Range 4, thence West 8 rods; thence South 10 rods; thence East 8 rods to the road; thence North 10 rods to the place of beginning. Containing 1/2 acre.

SIXTH TRACT:- The North half of the Southwest Quarter of the Northeast Quarter of Section 22, Township 4, Range 4, Containing 20 acres, more or less. CONTAINING in all of the said several tracts of land, after above exception, 197.69 acres, more or less.

Addendum to I.B.R., Item 20  
American Energy Corporation

VOL 112 PAGE 161

MEMORANDUM OF LEASE

Instrument  
200300006636

THIS MEMORANDUM OF LEASE (this "Memorandum"), dated as of May 23, 2003, by and between Consolidated Land Company, an Ohio corporation having a mailing address at 29325 Chagrin Boulevard, Suite 300, Pepper Pike, Ohio 44122 (the "Lessor"), and American Energy Corporation, an Ohio corporation having a mailing address at 43521 Mayhugh Hill Road, Township Highway 88, Beallsville, Ohio 43716 (the "Lessee"). The Lessor and the Lessee are parties to that certain Lease Agreement dated February 1, 2002 (the "Lease"), pursuant to which the Lessor leased to the Lessee certain land described on Exhibit A attached hereto and incorporated herein by reference and the improvements located thereon.

1. The name of the Lessor under the Lease is: Consolidated Land Company.
2. The name of the Lessee under the Lease is: American Energy Corporation.
3. The address of the Lessor is: 29325 Chagrin Boulevard, Suite 300, Pepper Pike, Ohio 44122. The address of the Lessee is: 43521 Mayhugh Hill Road, Township Highway 88, Beallsville, Ohio 43716.
4. The date of execution of the Lease is: February 1, 2002.
5. The Lessor leased to the Lessee the land described on Exhibit A attached hereto and incorporated herein by reference and the improvements located thereon.
6. The date of commencement of the term of the Lease was: February 1, 2002.
7. The term of the Lease is for a period lasting until all mineable and merchantable coal has been depleted.
8. This Memorandum is executed for recording. The Lease contains and sets forth other important terms and provisions which are incorporated herein by reference.
9. This Memorandum shall not limit, expand, supplement or modify the Lease, and in the event of any conflict between the terms of this Memorandum and the Lease, the Lease shall control.

[REMAINDER OF PAGE INTENTIONALLY LEFT BLANK]

TRANSFER NOT NECESSARY

*Fred F. Bennett*  
FRED F. BENNETT, P.E.  
COUNTY ENGINEER 06-16-03

TRANSFER NOT NECESSARY

6-16-03  
*A. Pappano*  
A. PAPPANO, AUDITOR  
DEPUTY

Prepared By:

NAME: AMERICAN ENERGY CORPORATION  
Co/ST: BELMONT CO., OH (4)

MI1A13209302TX9021.DOC68535.0146

AEC 08079

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IN WITNESS WHEREOF, the Lessor and the Lessee have duly executed this Memorandum as of the day and year first above written.

LESSOR:

CONSOLIDATED LAND COMPANY

By: 

Name: PETER J. VULTAWIG

Title: PRESIDENT

LESSEE:

AMERICAN ENERGY CORPORATION

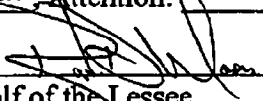
By: 

Name: Robert J. Moore

Title: President

CERTIFICATE OF RESIDENCE

The undersigned certifies that the residence of the Lessee is  
 43521 Mayhugh Hill Road, Beallsville, OH Attention: Steven Hill  
 43716

  
 On Behalf of the Lessee

200300006636  
 Filed for Record in  
 BELMONT COUNTY, OHIO  
 MARY CATHERINE NIXON  
 06-16-2003 01:11 pm.  
 LEASE 30.00  
 Volume 112 Page 161 - 166

Transfer Not Necessary

Date 6-20-03 Sec. 319.202 Completed With  
 Pandora J. Neuhart, Auditor, Monroe Co. Ohio

By SKM Fee 0 Mill 0



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CERTIFICATES OF ACKNOWLEDGEMENT

STATE OF PENNSYLVANIA )  
 ) ss:  
 COUNTY OF JEFFERSON )

On this, the 27th day of May, 2003, before me, a Notary Public, the undersigned officer, personally appeared Peter J. Vuljanic, who acknowledged himself/herself to be the President of CONSOLIDATED LAND COMPANY, a corporation organized and existing under the laws of the State of Ohio, and that he/she, as such he, being authorized to do so, executed the foregoing instrument for the purposes therein contained by signing the name of the corporation by himself/herself as President.

IN WITNESS WHEREOF, I hereunto set my hand and official seal.

Ronald E. Armstrong  
 Name: Ronald E. Armstrong  
 Title: Notary Public

My commission expires: 09/04/2004

Notarial Seal  
 Ronald E. Armstrong, Notary Public  
 Snyder Twp., Jefferson County  
 My Commission Expires Sept. 4, 2004  
 Member, Pennsylvania Association of Notaries

STATE OF Ohio )  
 ) ss:  
 COUNTY OF Belmont )

On this, the 23 day of May, 2003, before me, a Notary Public, the undersigned officer, personally appeared Robert D. Moore, who acknowledged himself/herself to be the President of AMERICAN ENERGY CORPORATION, a corporation organized and existing under the laws of the State of Ohio, and that he/she, as such he, being authorized to do so, executed the foregoing instrument for the purposes therein contained by signing the name of the corporation by himself/herself as President.

IN WITNESS WHEREOF, I hereunto set my hand and official seal.

Barbara L. Rush  
 Name:  
 Title: Notary Public

My commission expires: 9-01-04



BARBARA L. RUSH  
 NOTARY PUBLIC, STATE OF OHIO  
 MY COMMISSION EXPIRES 9-01-04

**EXHIBIT A**

Situate in the Counties of Belmont and Monroe, State of Ohio:

Beginning at the SW corner of Section 12, T5N, R5W, Sunsbury Township, Monroe County, Ohio;

Thence northerly with the west section line of said Section 12 to the NW corner of Section 12;

Thence easterly with the north section line of said Section 12 to the SW corner of Section 7, T6N, R5W, Wayne Township, Belmont County, Ohio;

Thence northerly with the west section lines of Sections 7, 8, 9, 10 and 11, T6N, R5W, to the quarter section line of Section 11, T6N, R5W;

Thence westerly with the quarter section line of the adjoining Section 17 to the center of Section 17, T6N, R5W;

Thence northerly with the quarter section line of said Section 17 to the south section line of Section 18, T6N, R5W;

Thence westerly with the south section line of said Section 18 to the SW corner of said Section 18;

Thence northerly with the west section line of said Section 18 to the SE corner of Section 19, T7N, R5W, Goshen Township;

Thence westerly with the south section lines of said Section 19 and Section 25 to the quarter section line of Section 25, T7N, R5W;

Thence northerly with the quarter section line of said Section 25 to the south section line of Section 26, T7N, R5W;

Thence continuing northerly with the quarter section line of said Section 26 to the north section line of said Section 26;

Thence easterly with the north section lines of Sections 26, 20, 14, 8 and 2 to the NE corner of Section 2, T7N, R5W, Goshen Township;

Thence southerly with the east section line of said Section 2 to the NW corner of Section 32, T6N, R4W, Smith Township;

Thence easterly with the north section line of said Section 32 to the NE corner of said Section 32;

Thence southerly with the east section line of Sections 32 and 31 to a point on said east section line which marks the SE corner of Consolidated Land Company's coal ownership in Section 31, T6N, R4W;

Thence westerly, parallel to the south section line of said Section 31, to a point on the section line between said Section 31 and Section 1, T7N, R5W, Goshen Township;

Thence southerly with the east section line of said Section 1 to the NE corner of Section 6, T6N, R5W, Wayne Township;

Thence southerly with the east section lines of Sections 6, 5, 4 and 3 to a point on the east section line of Section 3, T6N, R5W, which point marks the intersection of said east section line of Section 3 with the Exchange Line established by The Youghiogheny and Ohio Coal Company and The Cambria Land Company on May 12, 1959;

Thence southeasterly with said Exchange Line to a point which marks the intersection of said Exchange Line with the east section line of Section 15, T5N, R4W, Washington Township;

Thence southerly with the east section lines of Sections 15, 14 and 13 to the NE corner of Section 18, T4N, R4W, Switzerland Township, Monroe County;

Thence westerly with the north section line of said Section 18 to the NW corner of said Section 18;

Thence southerly with the west section lines of Sections 18, 17 and 16 to the SW corner of Section 16, T4N, R4W;

Thence easterly with the south section lines of Sections 16 and 10 to the quarter section line of Section 10, T4N, R4W;

Thence southerly with the quarter section line of the adjoining Section 9 to the center of Section 9, T4N, R4W;

Thence westerly with the quarter section line of said Section 9, and continuing westerly along the quarter section lines of Sections 15, 21 and 27 to a point on the west section line of Section 27, T4N, R4W, Sunbury Township;

Thence northerly with the west section lines of Sections 27, 28 and 29 to the SE corner of Section 36, T4N, R4W;

Thence westerly with the south section line of said Section 36 to the SW corner of said Section 36;

Thence northerly with the west section line of said Section 36 to the SE corner of Section 6, T5N, R5W, Sunbury Township;

Thence westerly with the south section lines of Sections 6 and 12 to the SW corner of Section 12, T5N, R5W, the place of beginning.

Excluding from the above described area any coal lands not owned in fee by Consolidated Land Company.

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Item 1 – Lease rights to parcel 57-22.1, 57-22.2, 57-23, 57-26, 57-28, 57-29, 57-32.1, 57-32.2, 57-35, 57-36.2, 57-57, 57-58, 57-59, 57-66, 57-76, 57-77, 57-95, 57-96, 57-106, 57-107, 57-120, Tract 26, Tract 30, Tract 31, Tract 32, Tract 34, Tract 35, Tract 36, Tract 42, Tract 50, Tract 55, Tract 61, Tract 64, Tract 67, Tract 72, Tract 81, Tract 82, Tract 154.

Together with the free and uninterrupted right of way into, upon and under said land at such points and in such manner as may be proper and necessary for the purpose of digging, mining, coking, draining, ventilating and carrying away said coal, etc. (hereby waving all surface damages or damages of any sort arising there from or from the removal of all of said coal), together with the privileges of mining and removing through said described premises other coal belonging to the Grantee, his heirs and assigns, or which may hereafter be acquired by said Grantee, his heirs and assigns.

Said Grantors, for themselves and their heirs and assigns, reserve the right to drill and operate through said coal for oil and gas.

It is understood and agreed between the parties hereto that the said Grantors and their heirs shall be paid at the rate of one-hundred dollars per acre for all surface land taken and used for mining said coal by said Grantee, his heirs or assigns.

Item 2 – Lease rights to parcel 57-18, Tract 115.

Together with the rights and privileges necessary and useful in the mining and removing of the said coal including the right of mining the same without leaving any support to the overlying strata and without liability for any injury which may result to the surface from the breaking of said strata the right of ventilation and drainage and of access to the mines for men and materials; the shafts or openings for such purposes, however to be in the ravines and waste places upon said land, and not nearer than 165.00 feet of the principal buildings thereon. Any surface ground required for building and operating switches and railroads, shafts, openings, machinery, ways, roads, houses for employees, etc., may also be taken but shall be paid for before being occupied at the rate of one-hundred and fifty dollars per acre, which payment shall thereupon entitle the Grantee, his heirs and assigns, to a deed in fee for the same. Also the right of mining, ventilating, draining and transporting the coal of other lands through the mines and openings in and upon the said land of the Grantors.

Item 3 – Lease rights to parcel 57-112, 57-124, Tract 93, Tract 94, Tract 156.

Together with all the rights and privileges necessary and useful in the mining and removing of said coal including the right of mining the same without leaving any support for the overlying strata and without liability for any injury which may result to the surface from the breaking of said strata, the right of ventilation and drainage and generally freed clear and discharged of any servitude whatever to the overlying land or to

21. Will operations conducted within this IBR affect land within three hundred feet of any public building, school, church, community or institutional building or public park?

Yes ☐ No ☒ If "yes," submit proof of valid existing rights.

22. Will operations conducted within this IBR affect land within one hundred feet of a cemetery?

Yes ☐ No ☒ If "yes," submit proof of valid existing rights or appropriate authorization to relocate the cemetery.

23. Is this IBR application area within an area designated unsuitable for coal mining operations or under study for designation in an administrative proceeding?

Yes ☐ No ☒

If "yes," did the applicant make substantial legal and financial commitments in this IBR application area prior to January 4, 1977? Yes ☐ No ☐ If "yes," provide documentation supporting the assertion that the commitments were made prior to January 4, 1977.

24. In order to address the nature of cultural, historic and archeological resources, submit Archeology - Surface.

25. Describe the uses of the land existing at the time of the filing of this IBR application area and provide a map delineating the area and acreage of each land use.

**The proposed I.B.R. area is composed of 1.3 acres of undeveloped land and 5.8 acres of cropland. See Addendum to I.B.R. Application, Item 25, Land Use Exhibit Map.**

26. Describe the use of the land, including the creation of permanent impoundments, that is proposed to be made of the land following reclamation, including information regarding the utility and capacity of the reclaimed land to support a variety of alternative uses. Provide a map that delineates the area and acreage of each proposed land use, and submit assurance of maintenance for each permanent impoundment.

**The use of the land following reclamation will be pasture land and undeveloped land. See Addendum to I.B.R. Application, Item 25, Land Use Exhibit Map.**

**OHIO DEPARTMENT OF NATURAL RESOURCES  
DIVISION OF MINERAL RESOURCES MANAGEMENT**

**ARCHEOLOGY - SURFACE**

1. Applicant's Name **American Energy Corporation**

Address **43521 Mayhugh Hill Road**

City **Beallsville** State **Ohio** Zip **43716**

2. Contact Person **Jack A. Hamilton & Assoc., Inc.** Phone **740-968-4947**

3. Location and Acreage Information

County **Monroe** Township **Sunsbury**

Section **24** Lot(s) **T-4, R-4**

USGS Quadrangle **Cameron** Acreage **7.1**

4. Application Map Attached: (area described in 3 above is to be outlined on the map)

5. Previous Disturbance:

☐ present; ☒ absent within application area only (Note: previous disturbance is any type of natural or human made disturbance to the topsoil and subsoil in the application area prior to submittal. Examples include, but are not limited to, slides, severe erosion, previous mining activities, clear cut logging, recreational activities, etc., but not agricultural plowing and discing.)

If previous disturbance is present, list below and clearly delineate the extent of each type of disturbance on the application map to be sent to the SHPO by the division. Attach addendum, if necessary.

Type of Disturbance	Date Occurred	Percent of Application	Map Symbol

6. Current Land Use: (describe land use and percent of land in that use)

Agricultural: **82% (Cropland)**

Residential: **18%**

Mining: **0%**

Pasture: **0%**

Secondary Forest Growth: **0%**

Has area been clear cut logged? Yes ☐, No ☒  
If "yes," indicate approximate date(s) of logging. **1980-1985**

Other: **Undeveloped: 18%**

7. Historic and Prehistoric Structures:

Definitions

A historic or prehistoric structure is a work made up of interdependent and interrelated parts in a definite pattern of organization. Constructed by humans, and 50 years or older, it is usually an engineering project.

Types

Historic structures include, but are not limited to dwellings, buildings, barns, farmstead outbuildings, bridges, culverts, churches, schools, halls, iron furnaces (and associated buildings), canals, forts, abandoned coal mine buildings, mine entrances, tipples and related structures, etc.

Prehistoric structures include, but are not limited to, earthworks, mounds, rockshelters, etc.

List all known historic and prehistoric structures below and locate each one on the application map to be sent to the SHPO including corresponding labeled black and white, front and rear photographs of each structure. Attach addendum, if necessary.

Structure Type	Construction Date	Map Reference	Photo # Front	Photo # Rear
<b>None</b>				



8. Previous Historic and/or Archeological Surveys: (describe any surveys known to applicant on the application area or adjacent areas)

Application area: **Phase I Survey performed in March 2006**

Adjacent areas: **None**

9. **SHPO please send this form to:**  
Division of Mineral Resources Management  
Attn: Division Archeologist  
2045 Morse Road, Building H-3  
Columbus, Ohio 43229-6693

---

**FOR USE BY THE STATE HISTORIC PRESERVATION OFFICE ONLY**

(check appropriate space)

- A. ☐ This is a recommendation for an archeological survey of the application based on the following reasons (attach addendum, if necessary):

**None**

A SHPO review of the area shown on the application map has provided a listing below of all known historic and prehistoric properties listed and eligible for listing on the "National Register of Historic Places" and known historic and prehistoric sites on the application area and adjacent areas (in a 1.5 mile radius). The listing includes, when appropriate, those historic and prehistoric structures identified by the applicant in items 7 and 8 above.

#### Listed and Eligible National Register Sites

Site Name (#)	Type	Application Area	Adjacent Area

#### Known Historic and Prehistoric Sites

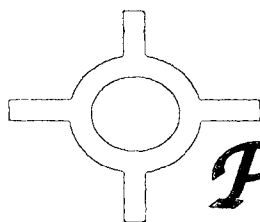
Site Name (#)	Type	Application Area	Adjacent Area

- B. ☐ A SHPO review of the area shown on the application map and information contained in this form finds that the proposed mining does not have a reasonable probability of affecting any properties listed or eligible for listing on the "National Register of Historic Places." Therefore, no further coordination will be necessary with this office unless the scope of the application area changes.

State Historic Preservation Officer \_\_\_\_\_

SHPO # \_\_\_\_\_

Date \_\_\_\_\_



*Professional Archaeological Services Team*

**Phase I Cultural Resource Management Survey of an 2.8 ha (6.9 a.)  
Incidental Boundary Revision for Permit Application #D-0425 in  
Sunsbury Township, Monroe County, Ohio**

Craig S. Keener  
Benjamin Burcham

March 2005



"Interpreting the Past, Envisioning the Future"

**Phase I Cultural Resource Management Survey of an 2.8 ha (6.9 a.) Incidental  
Boundary Revision for Permit Application #D-0425 in Sunbury Township,  
Monroe County, Ohio**

**Craig S. Keener, Ph.D.**

And

**Benjamin Burcham  
(Archaeological Research Consultants)**

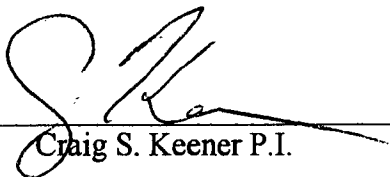
Prepared for:

**Jack A. Hamilton & Associates Inc.  
342 High Street  
Box 471  
Flushing, Ohio 43977**

**Lead Agency: Ohio Department of Natural Resources, Division of Mineral  
Resources Managment**

**Professional Archaeological Services Team  
264 West Main Street  
Plain City, OH 43064**

**Phone: 614.733.0987 Fax: 614.873.4752 E-mail: [pasteam@earthlink.net](mailto:pasteam@earthlink.net)**

  
\_\_\_\_\_  
Craig S. Keener P.I.

3.17.06

## **Abstract**

Professional Archaeological Services Team conducted a Phase I Cultural Resource Management (CRM) survey of an 2.8 ha (6.9 a.) Incidental Boundary Revision for Permit Application (#D-0425) in Sunbury Township, Monroe County, Ohio. The proposed survey was conducted in March under at the request of Jack A. Hamilton and Associates, Inc. The project area is related to a proposed haul road and substation/air shaft to be built by the American Energy Corporation. The survey recorded and evaluated the project under Section 106 guidelines.

The project area is an irregular shaped parcel located south of State Route 556 (SR 556). The project is situated on steep side of a ridgetop and on a portion of a small toe ridge/bench. The project is represented by overgrown former pasture land. Slope ranges from 11 to 25%. The project is located in the Unglaciaded Appalachian Plateau. The test area contains two soil types: Guernsey-Westermoreland (GwD2) and Zanesville (ZnC) silt loam. Shovel testing in the testable portions of the project area and visual inspection found no archaeological sites. Consequently, no further cultural resource work is recommended.

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## Figures

1. Map of Ohio Political Boundaries showing the project area.
2. Portions of the USGS 1960 (PR 1972) and 1961 (PR 1975) *Woodsfield Quadrangle, Ohio, 7.5 Minute Series (Topographic)* maps showing the location of project area.
3. Portion of 1898 *Caldwell's Atlas of Monroe County, Ohio* (Caldwell 1875) showing the estimated location of the project area.
4. Portion of the 1905 *Woodsfield, Ohio 15 Minute Series (Topographic)* map showing the general location of the project area.
5. Fieldwork schematic showing the location of shovel test units, datum location, sloped areas, and the project area boundary. (Shovel test units are not to scale)

## Plates

1. View of the project area facing southeast from State Route 553 (the northern end of the haul road).
2. View of the southern portion of the haul road corridor, view facing north from approximately station 13+00.
3. View of the haul road corridor facing northwest from approximately station 8+50.
4. View of the project area, facing west from the southern terminus of the haul road, showing the landform that was tested.
5. Typical shovel test unit excavated in the project area.

## **Introduction**

Professional Archaeological Services Team conducted a Phase I Cultural Resource Management (CRM) survey for a proposed 2.8 ha (6.9 a.) development in Sunbury Township, Monroe County, Ohio (Figures 1-3). The project is located in Section 24. The proposed survey was conducted at the request of Jack Hamilton & Associates, Inc. The survey is investigating the project under Section 106 requirements as they pertain to cultural resources.

The proposed irregular shaped project involves an Incidental Boundary Revision of Permit Application #D-0425 for a proposed haul road and substation/air shaft to be built by the American Energy Corporation (Plates 1-4). The project is situated in a rural area mainly represented by woods, pasture, and open agricultural field areas. The project itself is represented by an overgrown former pasture land.

The project is represented by steep side slope of a ridgetop and a portion of a small toe ridge or bench. Slope ranges from 11 to 25%.

The project area is located in the Unglaciared Appalachian Plateau, on colluvium derived from local bedrock (Pavey et al. 1999). The project possesses two soil types: Guernsey-Westermoreland (GwD2) and Zanesville (ZnC) silt loam represent the project area. The project is located in a rural setting to the west of the Village of Bingham.

Due to the lack of surface visibility in the project subsurface test units and visual inspection were utilized. Dr. Craig Keener served as the principal investigator for this project, while the field testing was conducted by Benjamin Burcham, M.A. from Archaeological Research Consultants. The report and figures were completed by Dr. C. S. Keener, Benjamin Burcham, and Kevin Nye.

## **Background Investigation**

An archival review was conducted for the project area and surrounding study area, which is defined as a 3.2 km (2 mi.) radius around the project area. The archival review is conducted in order to ascertain what archaeological and/or historical resources were previously located within or around the project area. This information can then be used to help formulate research questions/hypotheses and appropriate testing methodologies for the project area. The archival research enables investigators to identify potential regional patterns in archaeological assemblages or architectural styles and aids in determining a building or site's significance. Archival resources that were analyzed included historic atlases and maps, archaeological and architectural inventories, the National Register, and county histories.

Mills' (1914) atlas was consulted to determine if any prehistoric earthworks/mounds, villages or burials were reported in the project area or study radius.



Mills hand plotted most of these sites on county maps from the recollections of postmen or local individuals who knew or had heard of such sites in these vicinities. The vast majority of these sites were not field checked, so the accuracy of a given site's position or its actual existence is questionable unless field checked. Mills' atlas is a useful planning tool, however, since it is reliable in giving a researcher a general idea of where earthworks/mounds may be located. Analysis of the Monroe County Mills' maps showed no sites within or immediately adjacent to the project area.

The USGS 1961 (PR 1975) *Woodsfield* and 1960 (PR 1972) *Cameron Quadrangles, Ohio, 7.5 Minute Series (Topographic)* maps, of the Ohio Archaeological Inventory (OAI), identified no archaeological sites within the project area. One archaeological site, 33BI344, was recorded in the study radius. This site is a 19<sup>th</sup> to 20<sup>th</sup> century historic scatter.

No CRM surveys overlap the project area. Two CRM surveys have occurred in the study radius (McDaniel 1988; Weller 2003). The Weller survey identified the archaeological site in the study radius.

Examination of the OHI files identified no recorded buildings in the project area.

Examination of the NRHP files failed to identify any buildings, sites or structures within or adjacent to the project area.

The Monroe County histories indicate no historical events have occurred at the test locations or that are associated with the historical property owners (Caldwell 1898; Hardesty 1882).

The 1898 *Caldwell's Atlas of Monroe County, Ohio* was analyzed and shows no structures lie in or adjacent to the project area (Caldwell 1898) (Figure 3). The property owner appears to be a Morgan Gates.

The 1905 *Woodsfield, Ohio 15 Minute Series (Topographic)* map (Figure 4), shows no structures inside or adjacent to the project.

The USGS 1961 (PR 1975) *Woodsfield* and 1960 (PR 1972) *Cameron Quadrangles, Ohio, 7.5 Minute Series (Topographic)* maps shows no structures inside or adjacent to the project area (Figure 2).

## Cultural History

The subsequent text is a summary of cultural developments that have occurred over time in the Ohio Region. This description of various cultural manifestations is presented in a broad and regional manner in order to provide an interpretative framework from which general research questions/hypotheses can be applied to a project area.

During the end of the Pleistocene the glacial retreat produced drastic changes in regional faunae and florae populations. Most of the so-called "megafauna" became extinct and broad regional vegetational changes occurred as the temperature increased (Shane 1994). The Native American groups to first inhabit the Ohio region had to cope with the rapidly changing subarctic climates. Some have argued (e.g., Martin and Klein 1984) that Paleoindian populations relied extensively or exclusively on hunting big game animals such as the mammoth, mastodon, and herd animals (e.g., long horned bison). Recent findings of a mastodon at the Burning Tree site in Licking County support this premise that Paleoindian populations were big game hunters (Fisher et al. 1994). However, while there is little doubt that Paleoindian populations hunted big game, this was not the only food resource option. Others have suggested that Paleoindian populations relied more extensively on smaller game animals and plant resources, employing a more balanced subsistence strategy (Bamforth 1988; Lepper 1988). Consequently, Paleoindian populations in Ohio have been viewed as highly mobile/nomadic and exhibiting four general settlement types: 1) food procurement and processing, 2) large workshops; 3) small workshops; and 4) flint processing. Sites are typically indicative of transitory behavior and reflect seasonal use of available animal and plant resources.

The artifact assemblage of the Paleoindian Period (14,000 B.C. to 8,000 B.C.) is characterized by the Clovis projectile point types, steep edged scrapers, blades, and utilized flakes and tools (Justice 1987; Tankersley 1994). Although not well documented for eastern North American, bone and wood tools were presumably commonly used as well. The Clovis point is a fluted lanceolate with a ground concave base and parallel or slightly convex sides. Unfluted Plainview types are also common to this period, but infrequently reported in Ohio.

Most reported Paleoindian sites in Ohio are surface finds recovered from elevated rises, hill/ridge tops, or along terraces within valley floors (Prufer and Baby 1963). Recent findings in the past two decades have resulted in additional information on site composition. Along the Ohio River, excavations at the Manning site revealed three distinct Late Paleoindian occupations that exhibited tool clusters and possible residential and/or activity areas (Lepper 1994). Evidence of hunting and/or hunting locations have been found near remnant glacial ponds, bogs, or along river valleys (e.g., Burning Tree Mastodon, Nobles Pond, and Sandy Springs) (Dancey 1994). Research on quarries and flint acquisition in Central Muskingum River valley (Lepper 1986; Tankersley 1990) and the Midwest as a whole has produced new information on land use patterns and workshop sites. These sites and/or investigations have produced significant information,

nonetheless, the picture of the Paleoindian Period within Ohio is incomplete and the scarcity of recorded sites make any newly identified Paleoindian site of potential interest.

Cultural developments in the Archaic Period reflect the impact of post-Pleistocene climatic changes in which moderate and temperate climates replaced the subarctic conditions of the glacial period. A wider range of natural resources became available, and based on the presence of ground stone tools, it appears that plant foods became a significant part of subsistence. Populations appear to become less transitory, with sub-regional lithic assemblages composed of greater percentages of local flint resources. The Archaic spans a broad time period and is broken up into three stages: Late, Middle, and Early.

The Early Archaic Period (8,000-6,000 B. C.) is marked by a greater variety of tools, in particular projectile points. Thebes, Kirk, and Palmer point types are just a few of many new variations being created during this period (Justice 1987). Most of these points are basally notched, bifurcates, or corner notched, and many exhibit ground bases, beveled blades, and/or serrated edges. Early Archaic sites are more commonly found on outwash terraces within the river and stream valleys of the Till Plains and Allegheny Plateau. The predominance of projectile type tools may indicate a greater reliance on hunting strategies, however, seasonal exploitation of plant foods and use of river biomes certainly were important aspects of subsistence. Other tools that characterize this period include end scrapers, utilized flakes, and some ground stone tools.

Little is known about the Middle Archaic Period (6000-3000 B. C.) in Ohio. Few undisturbed sites have been recorded. The climate continued to change during this period and the majority of Middle Archaic sites are found on terraces and floodplains of stream valleys (Genheimer 1980). Projectile points of this era are generally represented by heavy stemmed or side notched varieties. There is also an apparent increase in ground stone tools such as atlatl bannerstones (both cylindrical and winged), slate pendants, and full grooved axes.

The Late Archaic (3,000-1,000 B.C.) represents a period of diversification and localization of pre-Woodland populations (Dragoo 1976; Pratt 1981). Tool assemblages are typically composed of flint from nearby (local) outcrops. A wide array of drills, scrapers, knives, and groundstone items are associated with this assemblage. Projectile points of this period are generally crude, stemmed types (e.g., McWhinney), but include many varieties. Burial goods, such as bannerstones and other slate goods, and flint items suggest the development of more elaborate ceremonial customs that would continue to grow in the Woodland period. The presence of some exotic goods, such as flint from distant outcrops suggests the development of long distance trade. Sites are usually large in size and generally reflect continual use of an area. The variety of site types is indicative of a specialization to seasonal exploitation of localized environments and an increase in reliance on plant foods that would carry over into the Woodland Period, resulting in the domestication of several wild species. Site locations along terraces suggest that during the spring and summer aquatic and plant resources in river valleys were heavily utilized, while during the fall and winter the uplands were focused upon for

nut harvest (e.g., hickory and walnut) and wild game hunting. Vickery (1980) has suggested that two types of settlements occurred during this period, the local base camp affiliated with a restricted territory, and larger scale camps indicative of the use of regional resources.

The Early Woodland Period (1,000 B.C. to 100 B.C.) represents a continuation and elaboration of cultural manifestations developed in the Late Archaic. The Early Woodland Period is set apart from the Archaic by the intensification of its mortuary practices with the construction of burial mounds and extensive exchange networks for burial/ritual goods, use of ceramic vessels, and the use of indigenous or non-indigenous domesticated cultigens such as chenopodium and sunflower (Dragoo 1976). The introduction of pottery is important because it suggests the greater reliance on food processing and storage (e.g., for nuts), and may indicate a greater emphasis on gathering of plant foods versus hunting. This change also marks a shift towards the development of cultivation and later agriculture which would occur in the Late Woodland. Pottery first appears in the Ohio Valley between 1,000 to 100 B.C. and is characterized as plain surfaced, thick, grit tempered and typically possessing a flat based and conical vessel form (e.g., Fayette Thick type).

Early Woodland settlements are characterized by small hamlet/village sites generally located on low terraces and floodplains of stream valleys. Little work has been conducted at these sites. Evidence of circular structures has been found at several sites, suggesting semi-permanence of the inhabitations. Projectile points found at Early Woodland sites are generally large ovate-based or stemmed varieties (Justice 1987). The mortuary complex of Adena sites is characterized by conical mounds generally small in size. Mounds usually are found isolated but may be accompanied by surrounding enclosures. Burial mounds are typically found along high terrace or bluffs overlooking stream valleys of the Ohio River. Examples of large Early Woodland mounds include the the Sentinel Mound (Harrison County), the Miamisburg Mound (Montgomery County), the Adena Mound (Ross County), and the Cemetery Mound (Washington County). Burials are often, but not always, placed in the center of the mound floors. Some burials are lined with logs, and often contain exotic goods such as high quality flint projectile points, copper bead necklaces, and slate and ground stone items.

The Middle Woodland period (100 B.C. to A.D. 400) exhibited a continuity of Early Woodland traits with similar habitation and mortuary site locations along major stream valleys. Subsistence strategies continued to rely heavily on food supplies attained from hunting and gathering (e.g., nut varieties, deer, berries, fish, seeds, and small mammals). There is however, an apparent greater reliance on seed food such as chenopodium, sunflower, and maygrass, known as the Eastern Agricultural Complex (Wymer 1996). Corn also makes its first appearance during this period, but only in small quantities, indicating it was not a major part of the diet.

Settlement patterns of the Middle Woodland appear to center around small hamlets, which in turn appear to be grouped near earthwork complexes (Pacheco 1996). Information on "hamlets" is still formative, however, excavations at such notable sites as

Jennison Guard (Blosser 1996), Murphy (Dancey 1991, 1992) and Twin Mounds (Fisher 1969, 1970a) have found that they are located in larger stream valleys and are the focus of many specialized activities (e.g., bladelet manufacture). Secondary encampments have been found in the uplands, indicating exploitation of seasonal plant (e.g., nuts) or animal (e.g., deer) resources. Ceremonial complexes were also the scene of possible communal activities, and rectangular structures and workshop areas have been found at many of the sites (e.g., Seip and Ft. Ancient [Connolly 1996]). However, no clear evidence of villages or hamlets have been found within the earthwork complexes themselves (Dancey 1996; Prufer 1965).

A distinction from the Early Woodland is the development of extensive and elaborate geometric earthwork complexes. Most archaeological work has been conducted upon these earthworks and associated mounds (e.g., Shetrone 1926). Some of the more notable Middle Woodland complexes include Hopewell, Mound City, High Banks, Newark, Seip, Harness, Stubbs, and Marietta. Hill top enclosures tend to be more common in the southwest Ohio area and are exemplified by such sites as Fort Ancient, Pollock, Fort Hill, and Miami Fort. From these sites excavations have revealed an elaborate mortuary-oriented culture, with evidence of preburial and postburial activities, and concentrated and large amounts of exotic grave goods, indicating well established trade connections or long distance acquisition. While Middle Woodland populations have been viewed as egalitarian the focus of exotic goods in the earthwork complexes indicates that some individuals did possess higher status.

The artifact assemblage of the Middle Woodland is dependent on its context. Exotic trade goods are generally concentrated in mortuary sites, while more utilitarian artifacts such as ceramics and lithic workshops, are located at hamlets or encampments. Middle Woodland ceramics are typically manufactured with grit temper and possess cordmarked or plain exterior surfaces. Some ceramics are decorated with stamped, punctated or zoned designs, with a few rare items containing iconography (Greber and Ruhl 1989). Vessels generally have thinner walls than the Early Woodland ceramics, and are globular in form. Lithic artifacts include bladelets, polyhedral cores, expanding base projectile points (e.g., Snyder type), drills, and a variety of ground stone tools. The mortuary type items, also found in workshops, include materials found over long distances from several regions of North America. These include chlorite and mica from the Southeast, in the southern Appalachians; marine shell, alligator and shark teeth, and turtle shell from the Gulf Coast; obsidian from the Yellowstone area in the Rockies; copper from the Great Lakes; silver from Ontario; meteoric iron; and non-local fine quality flint from North Dakota (Knife River), and southeast Indiana (Harrison County [Indiana Hornstone] flint). Other items made from non-local or local material include platform pipes, copper axes/adzes and plates, copper skull caps, copper and silver earspools, large predatory animal canine teeth, and leaf shaped flint cache blades (Griffin 1978).

The Late Woodland period (A.D. 400 to A.D. 900) is characterized by the continuation of some Middle Woodland traits such as similar tool complexes (e.g., Chesser type points, ceramic manufacture, and continuation of exotic trade goods in some

areas). However, the large ceremonial complexes of the Middle Woodland do not occur in the Late Woodland, changing instead to rather small burial mounds and/or stonebox graves. Distinct subregional expressions also appear during this period, such as Cole and Newtown (Baby and Potter 1965; Prufer and McKenzie 1966). Ceramic assemblages in southern Ohio are typically cordmarked, and either contain chert or limestone tempering agents (e.g., Peters and Chesser series). In central Ohio ceramics are generally cordmarked and grit tempered (e.g., Cole series). The lithic assemblage is characterized by Chesser-side notched points, Raccoon notched, triangular side-notched points, and triangular points (Justice 1987). Ground stone tools such as three quarter groove axes, pestles, and metates are common. There is also an increase of representative bone tool artifacts (e.g., awls, punches, etc.) during this period (e.g., Philo site).

Settlement patterns change during the Late Woodland, with populations aggregating into village sites typically located within major river valleys along the base of bluffs or terraces. The amalgamation of people into villages appears to correspond with the introduction of corn, bean, and squash agriculture. The greater reliance on cultivated plants required a larger work force for planting and harvesting, making a permanent settlement more advantageous. The advent of agriculture also corresponds with an apparent increase or threat of warfare. Large groupings of people provided better defensive capabilities to a community. Towards the end of the Late Woodland, villages began to be placed on more easily defensible terrain and palisades began to be constructed. It also appears that upland locations were selected for temporary encampments in the autumn and winter in order to exploit seasonal food resources.

The Mississippian/Late Prehistoric period (A.D. 900 to 1685) represents a continuation of most of the cultural manifestations that occurred in the Late Woodland. Settlements are still found in river valleys, although villages tend to be situated on more highly defensible terrain such as bluff or terrace edges. They also tend to be larger, and many are ringed by defensive palisades, suggesting that warfare was a factor in site selection. There is an increased reliance on corn agriculture and consequently, populations become more sedentary. Ceramic assemblages contain both grit and shell tempered varieties. Lithic assemblages are dominated by triangular points and knives. There is also extensive use of bone and shell for tools or ceremonial items. Some decorative motifs on shell artifacts or ceramics suggest influence from both southeastern and Mississippian cultures (e.g., weeping eye motif at Ft. Ancient sites) (Griffin 1978). Several distinct sub-regional groups (e.g., Ft. Ancient, Monongehela, Whittlesey, and Western Basin) develop across Ohio, with each containing unique developmental phases.

The project area falls within an area affiliated with Monongehela assemblages.

The Historic Period begins in the Ohio region during the early 1680s with recorded accounts of Iroquois war parties driving out indigenous tribes of the area. Little historical information is known about the indigenous seventeenth century inhabitants of the Ohio region or the specifics of the Iroquois intrusion into this area, except that the Iroquois were successful in dispersing or defeating several tribes from this region, including the Shawnee, Erie, and Fire Nation (Keener 1998). Eastern Ohio remained

vacant between 1685 and 1720 and served as a hunting area for the Iroquois and various tribes (Ottawa, Mississauga, and Wyandot) located near Detroit (O'Callaghan 1856; Wheeler-Voegelin 1974).

The first recorded evidence of resettlement of the eastern Ohio region is reported in the 1720s as Iroquois, Delaware, and Shawnee are reported living along the Upper Ohio River and its tributaries. No major villages were established in Monroe County, except for temporary encampments along the Ohio River and creek valleys. The county was mainly used as a hunting area until the early 1800s (Tanner 1987; Wheeler-Voegelin 1974). Eastern Ohio was the scene for many conflicts between Euroamericans and Indians during the second half of the eighteenth century. Several skirmishes occurred between the Indians and early American settlers during the 1770s, particularly along Captina Creek during Lord Dunmore's War. After the Greenville Treaty of 1795, all Indian claims to this area were relinquished.

Monroe County was organized in 1813. One of the earliest settlers was Philip Witten who arrived in the county in 1791. Most of the early settlements were along the Ohio River at the mouths of Sunfish, Clear Fork, and Opposum Creeks and the Little Muskingum River. Most of the early settlers were farmers and agriculture was the dominant economy in the nineteenth century. In 1819 a number of German and Swiss families settled in the county and today the county has a sizable Amish population. Agricultural products of the county include wheat, corn, oats, potatoes, livestock, and cheese production (Hardesty 1882).

Indian trails and the Ohio River served as major transportation routes during the early 1800s. The first railroads built in the county stimulated agricultural production and coal mining. Woodsfield, is the county seat. Coal mining and gas/oil production are important industries.

Information about Sunbury township was limited. The township was organized in 1819. Early settlers arrived in the township as early as 1809. The Village of Beallsville, is the economical focal point of the township. The town has several mercantile stores that serve the local populace (Hardesty 1882).

## **Environmental Section**

### **Physiography**

Monroe County is situated within the Unglaciaded Allegheny Plateau. The topography is represented by steep and heavily dissected ridges. Underlying bedrock is represented by limestone, sandstone, shale, coal, iron ore, and clay, of the Pennsylvanian and Permian systems. Major drainages of the county include Clear Fork Creek, Sun Fish Creek, Captina Creek, Opposum Creek, the Little Muskingum River, and the Ohio River (Pavey et al. 1999; USDA, SCS 1974).

The project area is located in the north central portion of Monroe County. The elevation within the project ranges from 365.7 m to 384 m (1200' to 1260'). The project area is represented by steep sideslope of a ridgetop and portion of toe ridge/bench.

### **Soils**

Soil types in the project area are important, for they can help determine the likelihood/potential for cultural activities or archaeological sites. Soil types also help us understand the process of taphonomy and how sites are preserved or changed from depositional factors, erosion, or soil acidity. A total of five soil types are located within the two test areas and listed below:

Guernsey-Westmoreland (GwD2) silt loam, 12 to 18% slope, moderately eroded  
Zanesville (ZnC) silt loam, 6-12% slope

Most of these soils are moderately to very well drained. Steep slope (>15%), and in particular eroded soils, are a major concern (USDA, SCS 1974).

### **Fauna**

The clearance of most of Ohio's presettlement forest resulted in the extinction of many species which could have been used by prehistoric populations. The most useful species found in archaeological assemblages of prehistoric and early Euroamerican populations include deer, elk, bison, black bear, wolf, beaver, turkey, passenger pigeon, mountain lion, ruffed grouse, cottontail rabbit, squirrel, water fowl, fish, and mussels. This variety of faunal resources supplied the seasonal food needs of indigenous populations and provided raw materials for tools (e.g., bone awls, shell hoes) and/or ceremonial artifacts (e.g., canine teeth, deer antler skull caps) (Cleland 1966).

### **Flora**

Presettlement vegetational patterns in Ohio have changed dramatically with the arrival of Euroamerican populations because of the impact of agriculture and industrial and urban developments. Large swaths of indigenous forests were cut down for use as lumber, fuel for the coal and iron industries, a source for heating (e.g., fire), and to clear fields for agricultural uses. Marshes, wetlands and prairies were also altered by post settlement populations with most wet areas having been drained for agriculture, and prairies replaced by cultivated fields. The presettlement vegetational patterns of Ohio have been classified by Gordon (1966). In eastern Ohio forests were once dominated by mixed mesophytic segregates such as broad leaved deciduous species and evergreen varieties. The project area was once dominated by ash, elm, beech, maple, and walnut. Nut bearing varieties provided a seasonal source of food for prehistoric populations.



## **Formulation of a Research Design**

The development of the research design incorporates information obtained from the archival review, culture history, and environmental context, which are used to identify objectives and questions to apply when testing a designated project area. The information obtained from the local and regional area help in the assessment of any identified building/site when determining its potential eligibility for nomination to the NRHP. A summary of the background findings and how this information may relate to the testing and evaluation of the project is provided below.

The project area is situated in the Unglaciaded Appalachian Plateau and is represented by steep sideslope of a ridgetop and a portion of a toe ridge/bench. Slope in the project ranges from 11 to 25%. The project is an overgrown former pasture. Two soil types: Guernsey-Westermoreland (GwD2) and Zanesville (ZnC) silt loam represent the project (USDA, SCS 1974). Eroded soils and steep slope are a concern for the project.

The archival review indicated that no previously recorded archaeological sites lie in the project area. One historic site has been found in the study radius. In the greater regional area ridgetop landforms have typically been found to contain prehistoric sites. Historic atlases/maps do not show any structures in the project so consequently a residential deposit (e.g. Ball 1984; South 1977) is not expected.

## **Methodological Approach**

The project area was tested using subsurface testing, and visual inspection. The testing methodologies are described below. Sites, if identified, are inventoried by Field Site #s (FS #). Each sequential site identified follows in numerical order and is recorded within the field notes and field maps and discussed accordingly within this report.

Subsurface testing will involve the excavation of a series of shovel test units within areas with <50% surface visibility. Shovel test units will be placed in a 15 m by 15 m (50' by 50') square grid. If a shovel test unit is identified as positive, four radial shovel test units will be excavated in the four cardinal directions from the positive test unit (within the project boundaries). Radial shovel test units will be spaced 7.5 m (25') from the positive shovel test unit. Radial shovel test units are used to help identify site boundaries within the project area for any site identified. Shovel test units and radial shovel test units are .25 m<sup>2</sup> (2.69'²) in size and are excavated by natural stratigraphic layers to a depth of approximately 5 cm (2") below subsoil. The soil matrix from each stratigraphic level will be dry screened through .6 cm (.25") hardware mesh. Any recovered artifacts are provenienced and placed in bags. Any features found on the subsoil floor of a shovel test unit will be drawn to scale with a plan view and photographed. A representative photo of the floor of a shovel test unit will be provided for the project area to exhibit a typical shovel test unit encountered during the survey.

Excavated areas, which reveal complete disturbance to the subsoil, are labeled shovel probes and possess 30 cm diameters. Those test locations, which are deemed shovel probes, are not screened and are back filled when determined to be disturbed. Areas which exhibit wet soils (with standing water or saturated soil) or disturbance at the surface will be labeled as such on the fieldwork map, and will not be excavated (unless noted by the field supervisor).

Visual inspection will be conducted at all test areas. This methodology is utilized in order to locate any unknown outbuildings, ruins, springs, dumps, or testable portions of the project. Any sites identified during visual inspection will be assigned a field site number and tested as deemed necessary by the field supervisor and/or principal investigator. Any testable landform identified will be subjected to testing methodologies and/or a testing grid which will cover the landform adequately.

### **Artifact Analysis**

Prehistoric and historic artifacts recovered in the field are washed and then inventoried for report purposes. Prehistoric artifacts are inventoried according to physical appearance (e.g., core, primary decortication flake, secondary thinning flake, granite hammerstone, bone awl, grit tempered pottery, etc.). The material from which artifacts are made from is identified in the inventory, such as flint type. Reference books (e.g., Justice 1987) are used when analyzing diagnostic artifacts. Specific studies on identified prehistoric assemblages are dependent upon what hypotheses or questions have been developed, if any, for the project area and the make-up of the assemblage. If a study on distribution or physical attributes of prehistoric artifacts is conducted, an entire section of the report is devoted to this endeavor. Prehistoric artifacts from each site are listed following the description of the site from which they were recovered or listed in a table in the back of the report. How the prehistoric assemblage was categorized into individual artifact classes is listed below. Attributes of flakes and tools is based on a number of references (e.g. Andrefsky 1994, 1998; Crabtree 1982; Kooyman 2000; Odell 2004, Pecora 2002), coursework and experience. Most of these artifact classes are commonly used by other CRM firms. While similar terms may be used by different companies it should be noted that classification of lithic debris is very subjective. In more advanced studies (e.g. Phase II or III) PAST may use a more refined technique that has been advocated by Pecora (2002).

### **Lithic Classification**

#### **Flake/Debitage**

*Primary Decortication:* These flakes exhibit 100% cortex on the dorsal surface. Typically, but not always these flakes are large and thick and representative of the early stage of raw material reduction.

*Secondary Decortication:* Flakes have less than 100% of the dorsal surface represented by cortex. Like primary decortication flakes this flake debris represents the initial stage of material reduction.

*Primary Flakes:* Typically exhibit a triangular platform and have a bulb of percussion at proximal end. These flakes are generally longer than they are wide. These flakes are typically associated with the shaping of cores and/or tool production.

*Secondary Flakes:* These flakes tend to lack a bulb of percussion and are smaller in size, slightly curved, and thinner than primary flakes. They can possess multidirectional or parallel ventral surface scars. These flakes are reflective of an intermediate to late stage biface/tool production.

*Finishing Flakes/Resharpening:* These flakes represent the late/final stages of biface production related to sharpening and/or trimming of a biface. They are very small in size, thin and slightly curved in cross-section and typically possess numerous multi-directional scars on the ventral surface.

*Flake Fragments/Broken Flakes:* These are flakes which lack a distinguishable platform/proximal end.

*Shatter/Blocky Irregular:* These flake fragments are angular or square shaped pieces that have no distinguishable ventral or dorsal sides. These pieces are a related byproduct of raw material reduction and/or biface manufacture.

The physical attributes of debitage, such as flint type and whether a flake has been heat treated are listed for artifacts recovered at each site. If nearby flint resources can be identified through the use of identified quarry/outcrops (Stout and Schoenlaub 1945) this will be noted.

## Tools

*Cores:* Prepared nodules of flint. These can include systematic reduction cores, multi-directional reduction, and bipolar core. Cores are made for the purpose of obtaining flakes or to be further modified into other tools.

*Unifaces:* Tools that have a working edge on one side only. Scrapers are commonly found as unifaces.

*Bifaces:* Tools that have a working edge on both sides. These can come in many forms such as blanks and preforms and typically indicate a stop in the

reduction stage that may be related to the creation of items suitable for transport. These pieces are then worked into a more formal tool at a later time.

*Modified Flakes:* Includes retouched flakes, and utilized flakes. Typically the flake is used for scraping or cutting.

*Ground Stone Tools:* Includes ground stone tools such as stone axes, adzes, celts, hammerstones, bannerstones, and any other shaped pieces.

**Fire Cracked Rock (FCR):** FCR is rock cracked by intense heat associated with thermal activities. Not all FCR has to be cracked however to be termed FCR. Some stones in feature context show signs of heat alteration with color change (e.g. blackening or reddening). FCR in Ohio is made of a number of materials associated with igneous (e.g. granite), metamorphic (e.g. gneiss), and sedimentary rocks (sandstone, limestone, etc.). In Phase I surveys these items are counted but not curated. In more advanced studies (Phase II and III) the FCR is counted, weighed and may be size graded depending upon the research questions.

Historic artifacts are inventoried using a modified version of Stanley South's (1977) artifact categorization system, which places artifacts into the following functional groups: Kitchen, Architectural/Residential, Arms, Activities, and Personal. Each of these groups has several subcategories which allows for variation, and those artifacts that do not fit in a particular group are placed in a Miscellaneous category. Various ceramic/historic artifact source books are used when determining identity, age, function, and possible economic status of an historic assemblage. These books include: Cushion (1980), Dalrymple (1989), Fitting (1970), Hume (1991), Kovel and Kovel (1995 [1953]), Majewski and O'Brien (1987), Manson and Snyder (1997), McConnell (1990), Miller (1980), Miller et al. (1991), Newman (1970), Ramsay (1976), Sussman (1977, 1997), and Turnbaugh (1985).

## **Curation**

Following the acceptance and clearance of the report, the property owner from which an archaeological site was identified is notified that artifacts were found. A written notice indicating that they may claim ownership of the artifacts or donate them to a curational facility is then sent to the property owner. Professional Archaeological Services Team (PAST) encourages property owners to donate recovered archaeological material because of the importance in the interpretation of the archaeological record and for the present and future research potential by fellow archaeologists. A copy of the property owner's decision is maintained at the office of PAST. If donation is requested, artifacts, field notes, and photographic negatives will be donated to the Ohio Historical Society's Curation Facility. If donation is denied and the artifacts are claimed by the property owner, PAST will house field notes and photographic negatives, and return all recovered artifacts to the property owner.

## **Field Work**

The field work portion of the Phase I CRM survey was conducted in March of 2006. One datum was used for the project area (Figures 2 and 5; Plates 1-4). The field investigations consisted of visual inspection as well as shovel test unit excavation. The proposed haul road (Figure 5) is located upon the slope of a generally north-south oriented ridge top. The degree of slope varied in this area between approximately 15-25 degrees. The entire length of the haul road was visually inspected. Some light disturbances were located in the north portion of the haul road, which may be related to the fanning out of excavated soils related to the modern house structure that is located to the east of the entrance of the haul road. There were four shovel test units excavated at the southern end of the proposed haul road. In this location the slope lessened to between 11-15 degrees, and protruded out like a narrow bench. A row of four shovel test units were excavated in this area. The average depth of the excavated shovel test units was 22 cm (8.6"). No cultural remains were identified.

At the southern terminus of the haul road was a larger area approximately 152 m (500') by 91 m (300'). The larger bench area was investigated through the excavation of shovel test units at 15 m (50') intervals (Figure 5). The general slope was approximately 11 degrees across the top of this bench and the landform generally sloped to the west. A total of 68 shovel test units were excavated in this portion of the project area, three of which were inadvertently excavated outside of the project area. These shovel test units had an average depth of 23 cm (9.1"). A typical test unit is shown on Plate 5. The excavated solum varied from a loose sandy loam to a dense clay. No cultural remains were identified in any of the excavated shovel test units.

## **Summary of the Investigations**

The project area was investigated through visual inspection, and the excavation of shovel test units at 15 m (50') intervals. Visual inspection identified two testable locations in the project area. No archaeological sites were encountered in the project area. It is felt that the testing which was conducted during this investigation was adequate for the identification of archaeological resources, which could have been located within the project area.

## **Conclusions and Recommendations**

Professional Archaeological Services Team completed a Phase I Cultural Resource Management survey in Sunbury Township, Monroe County, Ohio. The survey was conducted at the request of Jack A. Hamilton & Associates, Inc. The project, a 2.8 ha (6.9 a.) parcel of land, is an Incidental Boundary Revision for Permit Area #D-0425. Subsurface test units and visual inspection were employed to analyze the project. The survey found no archaeological sites or historic structures within the project area.

To conclude, no further archaeological work is recommended for the project area.

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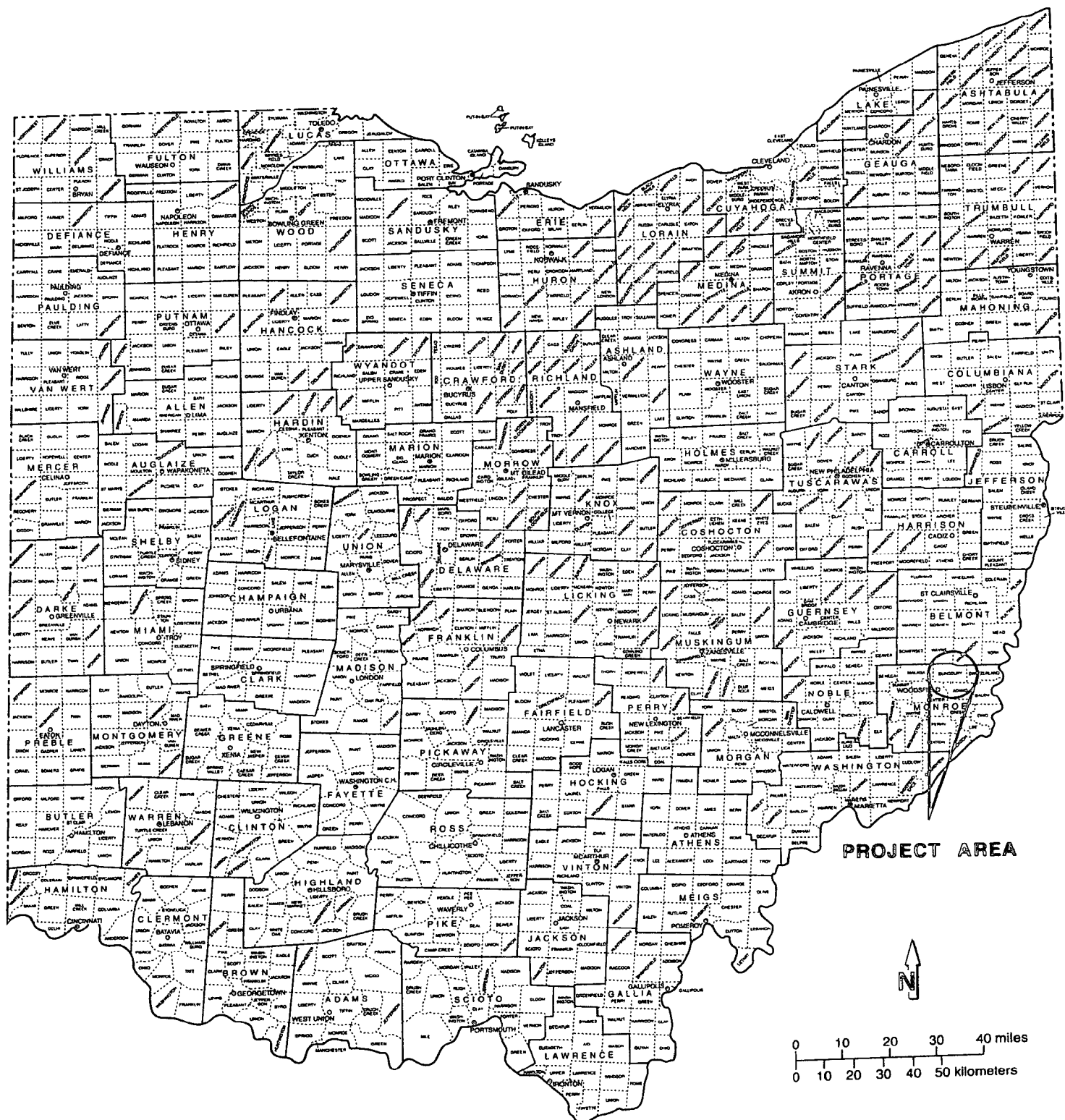


Figure 1. Map of Ohio Political Boundaries showing the project area.

This map is intended to show the majority of townships that currently exist or have existed in the past. Especially in urban areas, all or parts of some townships may have been incorporated into cities or villages. Boundaries are based primarily on U.S. Geological Survey and county engineers' maps.



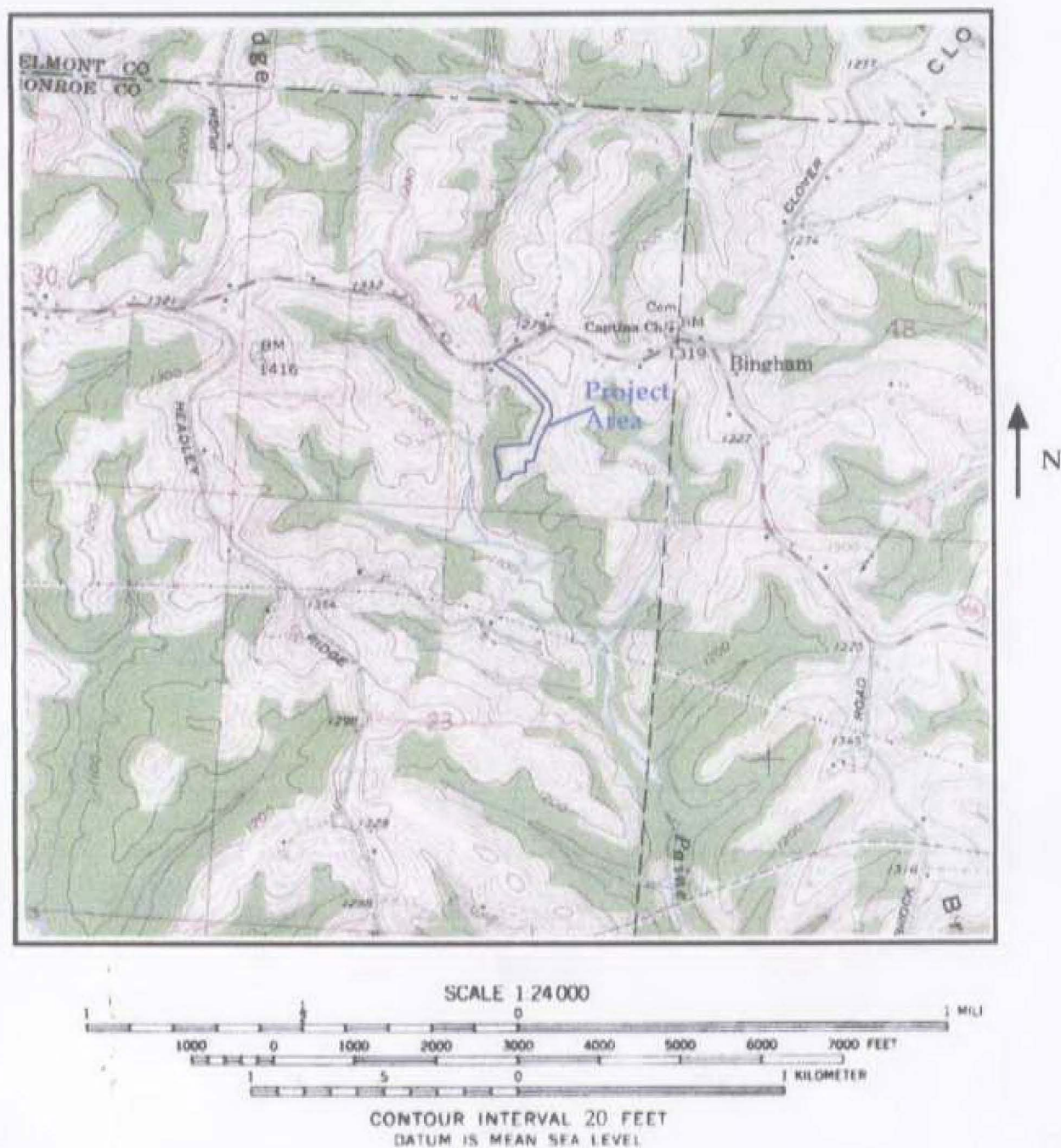


Figure 2. Portions of the USGS 1960 (PR 1972) Cameron and 1961 Woodsfield Quadrangles, Ohio, 7.5 Minute Series (Topographic) maps showing the location of the project area.



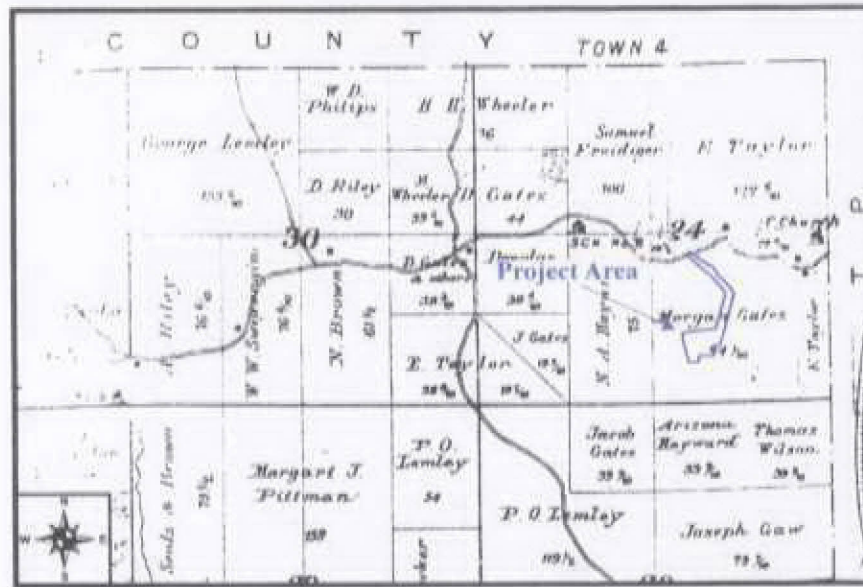


Figure 3. Portion of 1898 *Caldwell's Atlas of Monroe County, Ohio* (Caldwell 1898) showing the estimated location of the project area.



Figure 4. Portion of the 1905 *Clarington, Ohio 15 Minute Series (Topographic)* map showing the general location the project area.

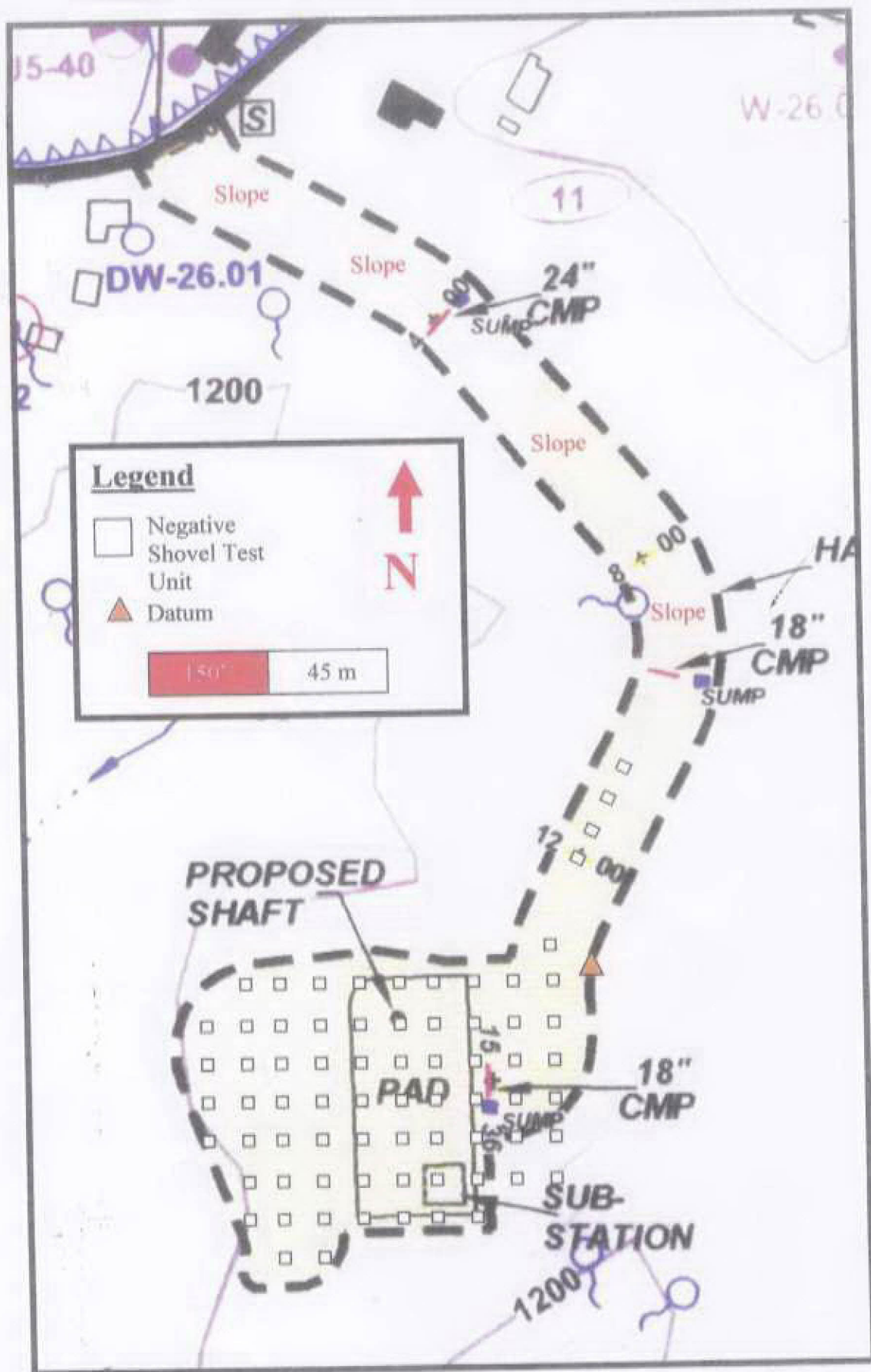


Figure 5. Field work schematic showing the location of shovel test units, datum location, sloped areas, and the project area boundary. (Shovel test units are not to scale)



## **Plates**

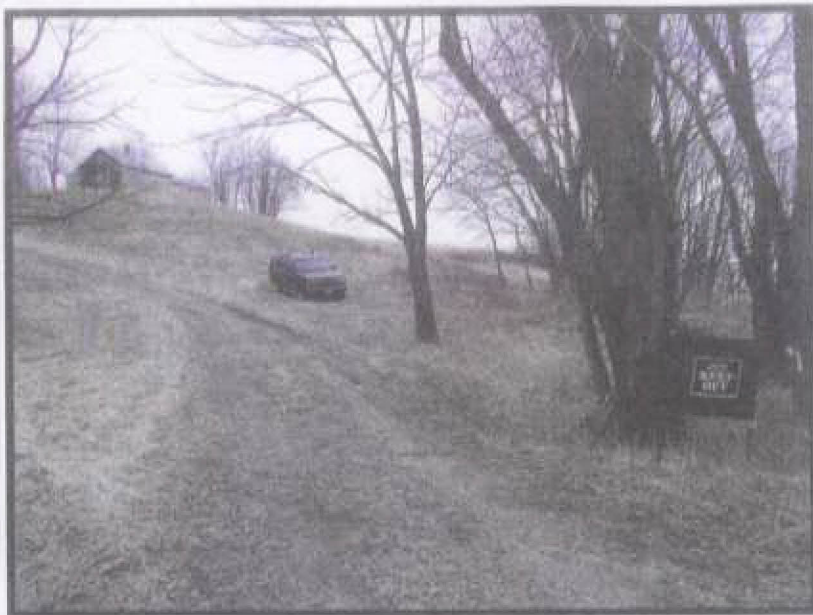


Plate 1. View of the project area facing southeast from State Route 553 (the northern end of the haul road).



Plate 2. View of the southern portion of the haul road corridor, view facing north from approximately station 13+00.



Plate 3. View of the haul road corridor facing northwest from approximately station 8+50.



Plate 4. View of the project area, facing west from the southern terminus of the haul road, showing the landform that was tested.



Plate 5. Typical shovel test unit excavated in the project area.





The post-mining land use for this area will be aesthetically appropriate and corresponds with adjacent land uses. Grasses and legumes will be used as a cover crop. Following reclamation, the capability and productivity of the land will be greater than that at the present time. The reclaimed land could sustain other agricultural or recreational uses.

27. Submit Surface Owner Comments from the legal or equitable owner(s) of record of the IBR application area concerning the proposed land use.

**See Surface Owner Comments - American Energy Corporation**

28. Is the post-mining land use to be different from the pre-mining land use?

Yes ☒ No ☐ If "yes," submit Land Use Change Notification.

29. Submit Negative PFL Determination for areas within this IBR application area that are not prime farmland.

Having considered the negative determinations, does this IBR application area include any land that is prime farmland? Yes ☐ No ☒

If "yes," submit PFL Restoration Plan or describe how this area will be avoided.

30. Are any of the variances listed below being requested?

Yes ☒ No ☐ If "yes," identify the variances and submit the applicable request(s) as an addendum.

☐ Stream buffer zone ☒ Small area drainage exemption

31. Will the proposed IBR area result in diversions of overland flow away from the disturbed area?

Yes ☐ No ☒ If "yes," provide the required engineering designs.

32. Will the proposed IBR area result in construction of diversions to direct runoff through a sediment pond or a series of sediment ponds?

Yes ☐ No ☒ If "yes," provide the required engineering designs.

Application for an Incidental Boundary Revision

Revised 02/06

DNR-744-9005

OHIO DEPARTMENT OF NATURAL RESOURCES  
DIVISION OF MINERAL RESOURCES MANAGEMENT

SURFACE OWNER COMMENTS

TO: American Energy Corporation

FROM: American Energy Corporation

Location of Proposed Permit Area:

County/Twp: Monroe / Sunsbury

Lot/Section: 24

The proposed postmining land use(s) for your property is/are checked below:

<input checked="" type="checkbox"/>
<input checked="" type="checkbox"/>
<input type="checkbox"/>
<input type="checkbox"/>
<input type="checkbox"/>
<input type="checkbox"/>
<input type="checkbox"/>

Cropland  
Pasture Land  
Grazing Land  
Industrial Land Use  
Commercial Land Use  
Developed Water Resources

<input type="checkbox"/>
<input type="checkbox"/>
<input type="checkbox"/>
<input type="checkbox"/>
<input type="checkbox"/>

Residential Land Use  
Forest  
Undeveloped Land Use  
Fish & Wildlife  
Recreation Land Use

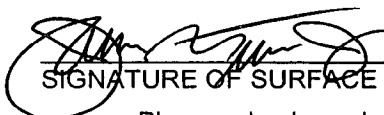
Pursuant to 1501:13-4-05(G)(2) of the Ohio Administrative Code, surface owner comments concerning the proposed postmining land use(s) for the proposed permit area are required. Please check the appropriate box below.

<input checked="" type="checkbox"/>
<input type="checkbox"/>

I concur with the proposed postmining land uses identified by the mine operator.

I DO NOT concur with the proposed postmining land uses.

COMMENTS:

 TREASURER  
SIGNATURE OF SURFACE OWNER

6/12/06  
DATE

Please check each (if any) of the following listed wildlife enhancements that you would be interested in having on your property. **PLEASE NOTE:** Checking a box does not require the operator to provide any or all of selected enhancements. This form is a tool to help landowners better understand options that may be available through the coal company.

<input type="checkbox"/>
<input type="checkbox"/>
<input type="checkbox"/>
<input type="checkbox"/>

Tree/Shrub Plantings  
Ponds/Wetlands  
Brushpiles  
Rockpiles

<input type="checkbox"/>
<input type="checkbox"/>
<input type="checkbox"/>
<input type="checkbox"/>

Small Depressions  
Perching/Nesting Structures  
Other: ☐  
Other: ☐

**WAIVER STATEMENT (Optional for Surface Owner):** I, the above named surface owner, waive my right to comment on any revision to the permit application during the application review process that results in a change in the postmining land use(s) from those shown above. (NOTE: I DO NOT WAIVE MY RIGHT TO COMMENT ON ANY PROPOSED POSTMING LAND USE CHANGE AFTER PERMIT ISSUANCE.)

SIGNATURE OF SURFACE OWNER

DATE

Part 2: Section F



## LAND USE CHANGE NOTIFICATION

TO: U.S. Fish and Wildlife  
Division of Ecological Services  
6950-H Americana Parkway  
Reynoldsburg, Ohio 43068

**Division of Wildlife  
2045 Morse Road  
Building G-2  
Columbus, Ohio 43229-6693**

**Note:** This form is to be completed only if a land use change is to occur.

1. Is a copy of the coal mine permit application currently on file with the Division of Mineral Resources Management? ☒ Yes, ☐ No.
2. Coal mine permit application no. or mine name **D-0425, Century Mine, I.B.R.**
3. Application to revise permit no. **N/A**
4. Applicant **American Energy Corporation**  
Address **43521 Mayhugh Hill Road**  
City **Beallsville** State **OH** Zip **43716**  
Phone no. **740-926-9152**
6. Application Location  
County **Monroe** Township **Sunsbury**  
Section **24** Lot **1** Acres **7.1**  
Township **4** Range **4** Quadrangle **Cameron**

**Note: only list land uses below that will change from the premining use**

7. Pre-mining Land Use type and acreage:  
**Undeveloped Land - 1.3 Acres**
8. Post-mining Land Use type and acreage:  
**Pastureland - 1.3 Acres**
9. Revegetation Plan (SPECIES AND AMOUNTS)
- |                                |                           |
|--------------------------------|---------------------------|
| <b>8 lbs/ac. Orchard Grass</b> | <b>7 lbs/ac. Alfalfa</b>  |
| <b>10 lbs/ac. Red Clover</b>   | <b>10 lbs/ac. Timothy</b> |
10. Stream Variance Request ☐ Yes, ☒ No If "yes," indicate the percentage of tree cover within the 100' buffer zones.

**Notifications to U.S. Fish and Wildlife and Division of Wildlife must include a location map, and a map of the mine site showing where land use changes will occur. If “yes” to item 10 above, enclose a copy of Stream Buffer Zone Variance Request with each notification.**

FOR DIVISION USE ONLY

---

This application is hereby ☐ issued, ☐ disapproved

☐ The acreage identified in Item 4 of this application is now part of permit \_\_\_\_\_.

☐ The acreage identified in Item 5 of this application has been deleted from permit \_\_\_\_\_.

Date: \_\_\_\_\_

Signed: \_\_\_\_\_  
Chief, Division of Mineral Resources Mgmt.

\$ \_\_\_\_\_ of performance bond received on \_\_\_\_\_ and  
\$ \_\_\_\_\_ of acreage fee received on \_\_\_\_\_.



**Addendum To Land Use Change Notification**  
**American Energy Corporation**

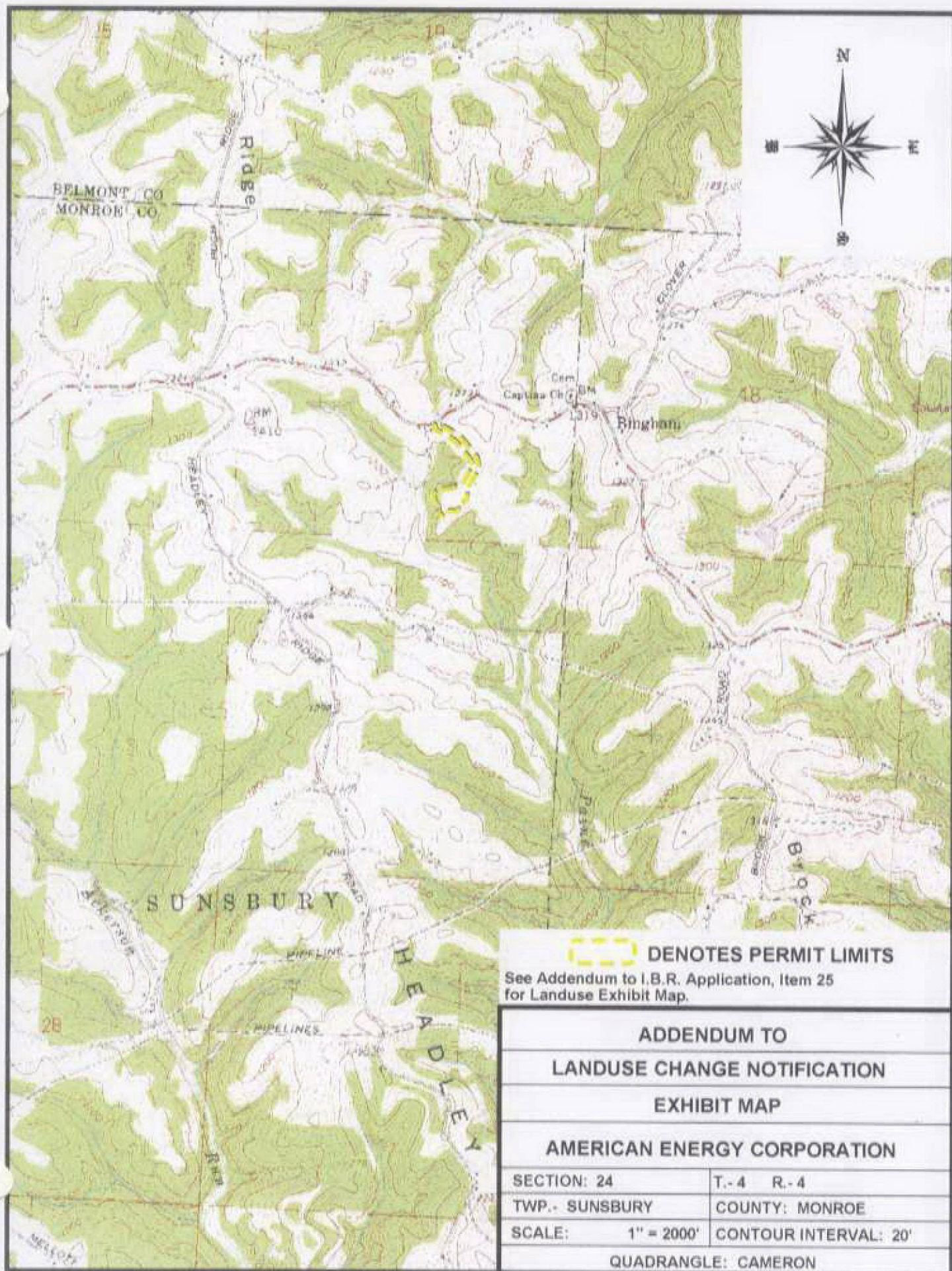
Pre-Mining Land Use: Undeveloped Land

Post Mining Land Use: Pastureland

RULE 1501:13-9-17(D)(1-6)

1. This proposed land use is compatible with the adjacent land uses which primarily consist of pastureland and undeveloped land. There are no existing local, state or federal land use policies or plans for the area. A notification of the land use change has been mailed to U.S. Fish & Wildlife and to the Division of Wildlife. No zoning or other changes will be required for this land use change.
2. Based on soil types in the area, the plan is feasible. For a schedule showing how the proposed use will be developed and achieved within a reasonable time see the planting schedule in Part 3 of this permit application.
3. There are no public facilities required for the proposed land uses.
4. This proposed land use will neither present actual or probable hazard to public health or safety, nor will they pose any actual or probable threat of water flow diminution or pollution.
5. This proposed land use will not change the reclamation schedule for this permit application.
6. This proposed land use should not have any adverse effects on fish and wildlife. An opportunity to comment has been provided to the appropriate State and Federal Fish and Wildlife Management Agencies. The notification of land use change was mailed to the U.S. Fish and Wildlife and The Division of Wildlife.

NOTE: The pre-mining land use will remain on all areas in which the surface has not been disturbed.



OHIO DEPARTMENT OF NATURAL RESOURCES  
DIVISION OF MINERAL RESOURCES MANAGEMENT

NEGATIVE PFL DETERMINATION

Applicant's Name **American Energy Corporation**

Check (X) the appropriate item numbers and attach the documents used to make the demonstration.

- ☐ 1. Lands within the application area have not been historically used for cropland.
- ☐ 2. The slope of the land within the application area is greater than eight percent.
- ☐ 3. The total prime farmland soil unit (inside **and** outside of the application area) is less than three acres.
- ☒ 4. On the basis of a second order soil survey meeting the standards of the National Cooperative Soil Survey, there are no soil map units within the application area that have been designated prime farmland by the U.S. Natural Resource Conservation Service.
- ☐ 5. On the basis of a first order soil survey commissioned by the applicant and meeting the standard of the National Cooperative Soil Survey, there were found to be no prime farmland map units as designated by the NRCS within the application area (see PFL Restoration Plan, item 2 for 1st order survey criteria).

Part 2: Section G

**Certification of Prime/Nonprime Farmland**

Name of Mine Operator *AMERICAN ENERGY CORPORATION*

Location of Permit Application Area *Sec 24 T-4-R-4 SUNSBURY*

Size of Permit Area (Acres) *8 ± AC*

**Check Appropriate Block:**

1.



I have determined that this permit application DOES NOT contain prime farmland in accordance with the edition of the current county Prime Farmland Map Unit List found in the county Field Office Technical Guide.

2.



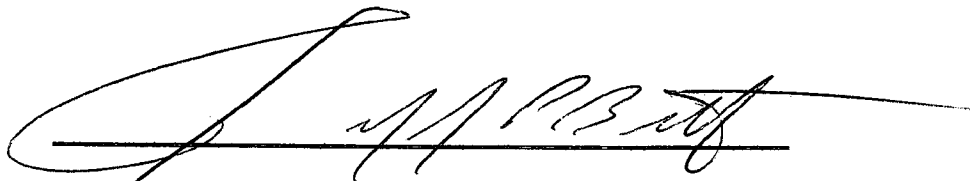
I have found that this permit application CONTAINS prime farmland in accordance with the edition of the Prime Farmland Map Units for Ohio and for the current county Prime Farmland Map Unit List, whichever is more current.

A soil map has been attached and prime unit(s) are as follows:

Soil Map Symbol

Map Unit Name

Signature:



Jeff Bettinger, Natural Resources Conservation Service  
1119 East Main St., Barnesville, OH 43713 (740) 425-1100 Ext. 112



# Soils Map

Field Office: BARNESVILLE SERVICE CENTER  
Agency: USDA-NRCS  
Assisted By: Jeffery Parker Bettinger



Image: Orthophotography

140 0 140 280 420 560 Feet



AEC 08133

Addendum to I.B.R. Application, Item 30  
American Energy Corporation

Chief  
ODNR, Division of Mineral Resources Management  
2045 Morse Road, Bldg. H-2  
Columbus, Ohio 43229-6693

Re: D-0425, Small Area Drainage Exemption

Dear Chief:

American Energy Corporation is hereby requesting a Small Area Drainage Exemption at this proposed I.B.R. site. As shown on the enclosed I.B.R. map the S.A.D.E. is located in the central portion of the I.B.R. and contains 1.2 acres. This S.A.D.E. is for the outslope of the fill for the pad. Prior to disturbance, hay bales and/or silt fence will be placed where necessary along the northerly and easterly boundary of the pad to control runoff. Grading operations will then be undertaken to construct the pad. The pad will be constructed with a slight grade to drain toward the sump. Immediately after construction, the S.A.D.E. area will be seeded and mulched. All runoff will meet the appropriate effluent limitations.

Yours truly,

*Suzie Utter*

33. Indicate which of the following are proposed to be constructed within this IBR application area, and provide the required engineering designs for each.

- ☒ Sedimentation pond(s) (submit Pond/Impoundment Plan)
- ☐ Water impoundments, including wetlands that impound water (submit Pond/Impoundment Plan)
- ☒ Sumps
- ☒ Other (specify) **Borehole - See Addendum**

34. Are any roads to be constructed, used or maintained within this IBR application area?

Yes ☒ No ☐ If "yes," provide the required description and engineering designs.

**See Addendum to I.B.R. Application, Item 34**

35. Are there any conveyor or rail systems to be constructed, used or maintained within this IBR application area?

Yes ☐ No ☒ If "yes," provide the required description and engineering designs.

**NOTES**

I, the undersigned authorized representative of the permittee, hereby attest that no coal has been or will be removed from the acreage identified in this application and verify the information in this application as true and correct to the best of my information and belief.



Printed Name: **James R. Turner**

Signature: 

Title: **Treasurer**

Date Signed: 6/12/06

Sworn before me and subscribed in my presence this 12<sup>th</sup> day of June, 2006.

  
Notary Public  
  
**BARBARA L. RUSH**  
NOTARY PUBLIC, STATE OF OHIO  
MY COMMISSION EXPIRES 9-09-09

Addendum to I.B.R. Application , Item 33

The American Energy Corporation is proposing to install two (2) ventilation shafts for the Century Mine. The shafts will be located approximately one (1) mile east of Beallsville, Ohio along State Route 556. One shaft will be located in a field south of said state route while the other shaft will be located to the north of the highway.

The terrain of the landscape is rolling hills. The shaft pad will be located in a grown up field. The primary road will be located in a field currently being used for hay production. The undisturbed areas used in the enclosed calculations are assumed to be farmstead and pasture, good condition.

The site will disturb little acreage. Therefore, a S.A.D.E. will be applied for within this application. Runoff will be controlled from the pad and primary road areas by the use of road ditches, sumps and clarifiers.

A sump will be constructed downhill from the pad for use in drilling operations. The sump is designed to store two and a half ( $2 \frac{1}{2}$ ) times the amount of the raw drill hole. The remainder of the storage not filled by settled tailings will be used to control any fugitive sediment from the pad area. The sump will discharge through a constructed broad crested weir into a clarifier. The purpose of the clarifier is to assure water discharge requirements by adding settling time. A berm constructed on the pad will ensure that runoff will flow into the sump and not into the clarifier.

Temporary structures such as silt fencing, hay bales, and additional sumps will be used on an as needed basis.



**OHIO DEPARTMENT OF NATURAL RESOURCES  
DIVISION OF MINERAL RESOURCES MANAGEMENT**

**POND/IMPOUNDMENT PLAN**

Applicant's Name **AMERICAN ENERGY CORPORATION** Pond/Impoundment # **CLARIFIER**

Type of pond/impoundment **EMBANKMENT** Permanent ☐ Temporary ☒

**1. DRAINAGE AREA DATA:**

- a) Drainage area **2.0** acres
- b) Disturbed area **1.3** acres
- c) Ave. land slope **10 %**
- d) Hydrologic soil group **C**
- e) Hydraulic length **250.0** ft.
- f) Cover/condition of the undisturbed area **FARMSTEAD**

**2. DESIGN STORM CRITERIA:**

a) Method:

- 1) Design method(s) including computer programs: **SEDCAD 4.0**
- 2) NRCS curve number **87**

b)	Rainfall Amount/Peak Flow	Rainfall, in.	Peak flow, cfs.
1)	10 year, 24 hour =	<b>3.5</b>	<b>3.6</b>
2)	25 year, 6 hour =	<b>4.1</b>	<b>4.5</b>
3)	50 year, 6 hour = (if permanent)		
4)	100 year, 6 hour = (if 20/20 size)		

**3. SIZE:**

a) Dimensions:

1)	Dam height	<b>6.0</b>	ft.	4)	Dam downstream slope	<b>33.3</b>	%
2)	Dam width	<b>12</b>	ft.	5)	Dam upstream slope	<b>50</b>	%
3)	Dam length	<b>150</b>	ft.	6)	Core length		ft.

b) Sediment storage volume **0.6** ac. ft. is provided below the **1233.0** foot elevation.

c) Stage/Area Data:

	Elevation ft.	Surface Area ac.	Volume ft.
1) Bottom of pond/impoundment	<b>1227.0</b>	<b>0.067</b>	<b>0.0</b>
2) Streambed at upstream toe:	<b>1227.0</b>	<b>0.067</b>	<b>0.0</b>
3) Principal spillway inlet:	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>
4) Emergency spillway crest:	<b>1233.0</b>	<b>0.138</b>	<b>0.6</b>
5) Top of embankment:	<b>1235.0</b>	<b>0.167</b>	<b>0.9</b>

4. PRINCIPAL SPILLWAY:

- a) Pipe length ft.
- b) Pipe diameter in.
- c) Pipe slope %
- d) Riser diameter in.
- e) Riser height ft.
- f) Type of pipe
- g) Number of anti-seep collars ; spacing along pipe ft.
- h) Does the design include a trash rack? ☐ Yes, ☐ No.
- i) Does the design include an anti-vortex device? ☐ Yes, ☐ No.

5. EMERGENCY SPILLWAY/EXIT CHANNEL:

- a) Base width **12.0** ft.
- b) Design flow depth **0.1** ft.
- c) Exit slope **50.0**%
- d) Exist velocity **4.2** fps
- e) Channel lining **12" ROCK RIPRAP**
- f) Side slopes **2:1**
- g) Freeboard **1.5** ft.
- h) Entrance slope **50** %
- i) Length of level control section **18** ft.

6. The minimum static factor of safety for this impoundment is **1.5**

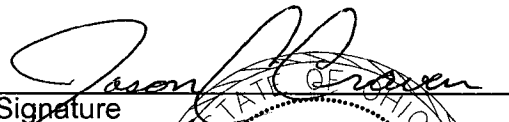
7. Provide as an addendum to this attachment a detailed plan view or 2 cross sections of the impoundment.

8. COMMENTS:

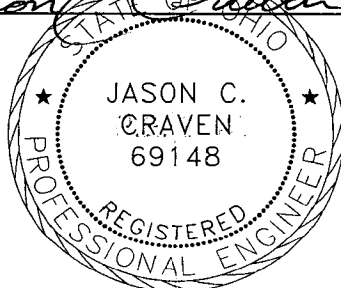
9. Is this an MSHA structure? ☐ Yes ☒ No. If "yes," provide the MSHA ID number if one has been assigned

10. If this is to be retained as a permanent impoundment, submit an addendum to this attachment demonstrating compliance with 1501:13-9-04 of the Administrative Code.

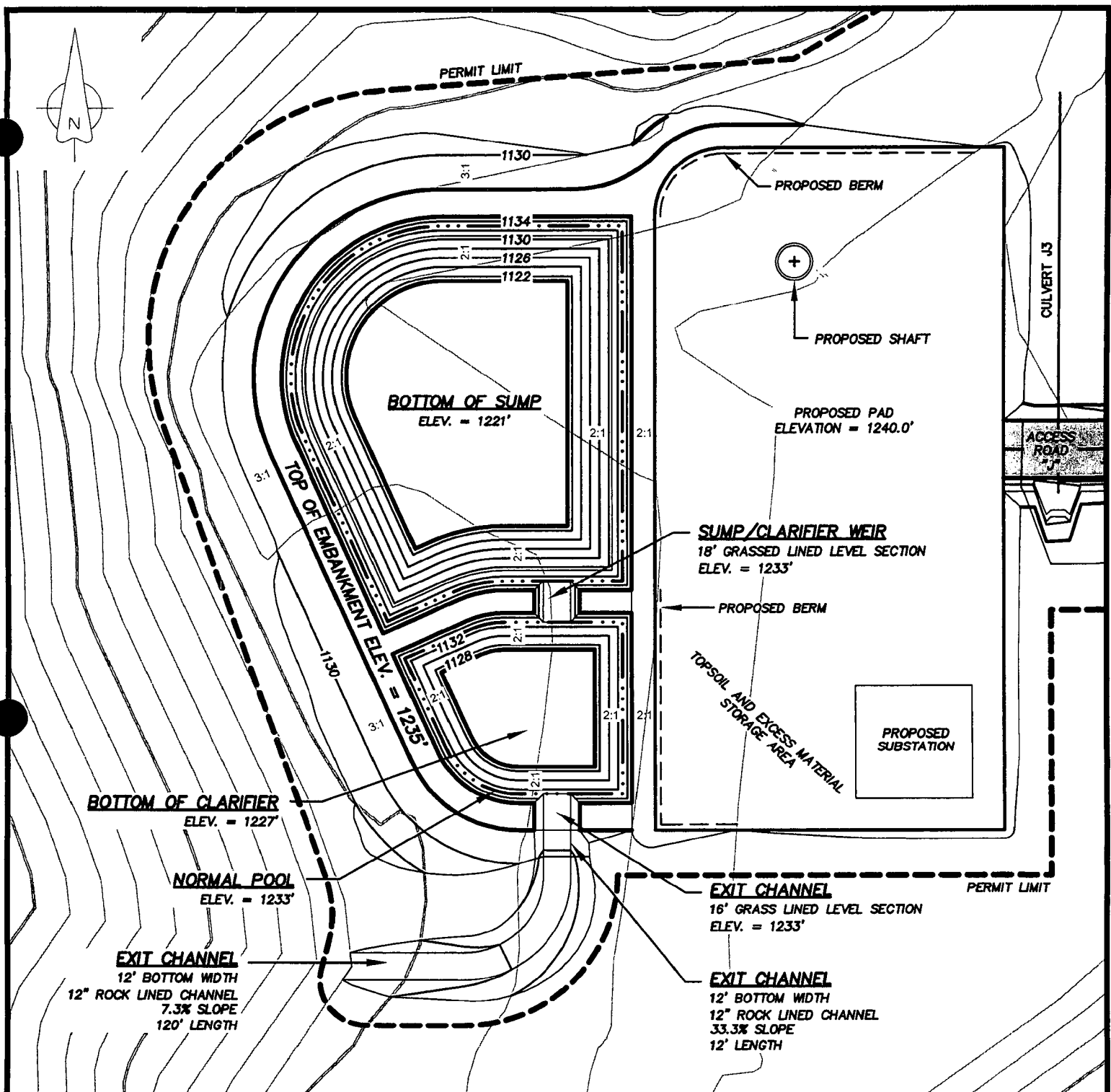
11. I hereby certify that this impoundment is designed to comply with the applicable requirements of 1501:13-9-04 of the Administrative Code using current, prudent engineering practices.

Signature 

Date 5/11/06

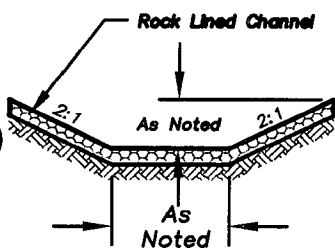


Part 3: Section A/H

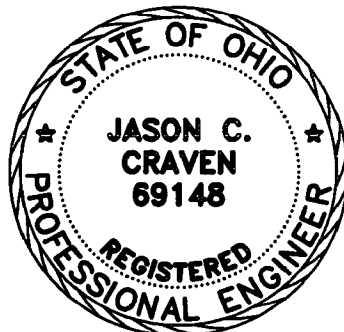


# **LEGEND**

ROCK LINED CHANNEL



Typical Exit Channel  
n.t.s.



*Jason Craven* 5/11/06  
Jason C. Craven, P.E.

## Addendum to Pond/Impoundment Plan **SUMP / CLARIFIER**

Applicant: AMERICAN ENERGY CORPORATION

MULLETT AIR SHAFT SITE

Township: SUNSBURY

County: MONROE

Contour Interval: 5'

Scale: 1" = 60'

Date: 03/02/06

Date Revised:

Comm #02001-49



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[www.hamiltonandassoc.com](http://www.hamiltonandassoc.com)

**OHIO DEPARTMENT OF NATURAL RESOURCES  
DIVISION OF MINERAL RESOURCES MANAGEMENT**

**POND/IMPOUNDMENT PLAN**

Applicant's Name **AMERICAN ENERGY CORPORATION** Pond/Impoundment # **SUMP**

Type of pond/impoundment **EMBANKMENT** Permanent ☐ Temporary ☒

**1. DRAINAGE AREA DATA:**

- a) Drainage area **2.0** acres
- b) Disturbed area **1.3** acres
- c) Ave. land slope **10** %
- d) Hydrologic soil group **C**
- e) Hydraulic length **250.0** ft.
- f) Cover/condition of the undisturbed area **FARMSTEAD**

**2. DESIGN STORM CRITERIA:**

a) Method:

- 1) Design method(s) including computer programs: **SEDCAD 4.0**
- 2) NRCS curve number **87**

b)	Rainfall Amount/Peak Flow	Rainfall, in.	Peak flow, cfs.
1)	10 year, 24 hour =	<b>3.5</b>	<b>4.4</b>
2)	25 year, 6 hour =	<b>4.1</b>	<b>5.4</b>
3)	50 year, 6 hour = (if permanent)		
4)	100 year, 6 hour = (if 20/20 size)		

**3. SIZE:**

a) Dimensions:

1)	Dam height	<b>6.0</b>	ft.	4)	Dam downstream slope	<b>33.3</b>	%
2)	Dam width	<b>12</b>	ft.	5)	Dam upstream slope	<b>50</b>	%
3)	Dam length	<b>306</b>	ft.	6)	Core length	ft.	ft.

b) Sediment storage volume **4.0** ac. ft. is provided below the **1233.0** foot elevation.

c)	Stage/Area Data:	Elevation ft.	Surface Area ac.	Volume ft.
1)	Bottom of pond/impoundment	<b>1221.0</b>	<b>0.214</b>	<b>0.0</b>
2)	Streambed at upstream toe:	<b>1227.0</b>	<b>0.330</b>	<b>1.6</b>
3)	Principal spillway inlet:	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>
4)	Emergency spillway crest:	<b>1233.0</b>	<b>0.471</b>	<b>4.0</b>
5)	Top of embankment:	<b>1235.0</b>	<b>0.532</b>	<b>5.0</b>

4. PRINCIPAL SPILLWAY:

- a) Pipe length ft.
- b) Pipe diameter in.
- c) Pipe slope %
- d) Riser diameter in.
- e) Riser height ft.
- f) Type of pipe
- g) Number of anti-seep collars ; spacing along pipe ft.
- h) Does the design include a trash rack? ☐ Yes, ☐ No.
- i) Does the design include an anti-vortex device? ☐ Yes, ☐ No.

5. EMERGENCY SPILLWAY/EXIT CHANNEL:

- a) Base width **12.0** ft.
- b) Design flow depth \* ft.
- c) Exit slope **50.0%**
- d) Exist velocity \* fps
- e) Channel lining **N/A**
- f) Side slopes **2:1**
- g) Freeboard **1.8** ft.
- h) Entrance slope **50** %
- i) Length of level control section **18** ft.

6. The minimum static factor of safety for this impoundment is **1.5**

7. Provide as an addendum to this attachment a detailed plan view or 2 cross sections of the impoundment.

8. COMMENTS:

**\* THE EXIT CHANNEL CONSISTS OF A CONNECTOR BROAD CRESTED WEIR INTO THE CLARIFIER.**

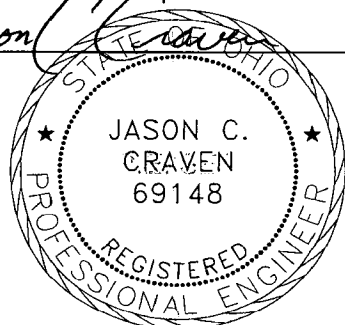
9. Is this an MSHA structure? ☐ Yes ☒ No. If "yes," provide the MSHA ID number if one has been assigned

10. If this is to be retained as a permanent impoundment, submit an addendum to this attachment demonstrating compliance with 1501:13-9-04 of the Administrative Code.

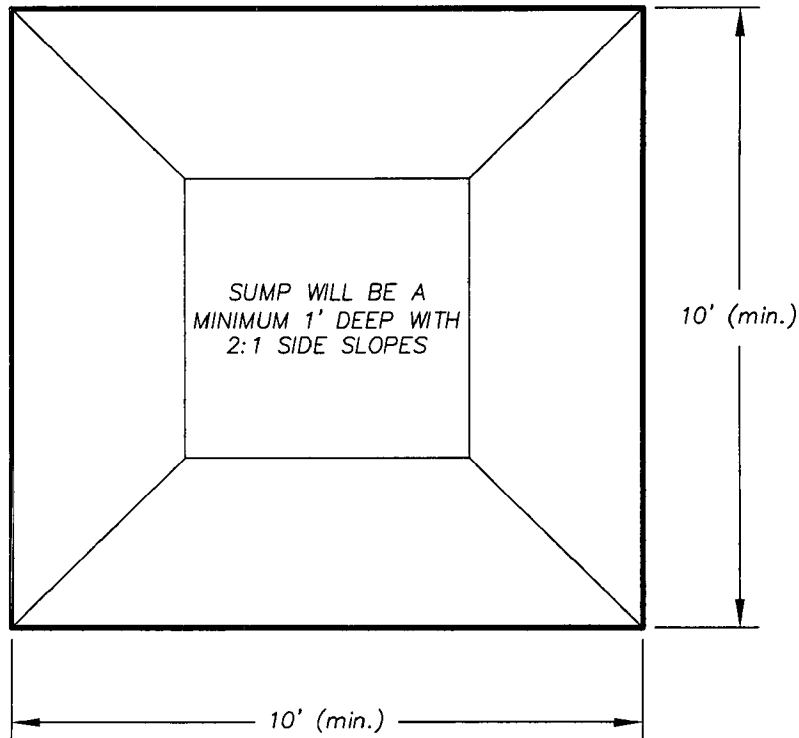
11. I hereby certify that this impoundment is designed to comply with the applicable requirements of 1501:13-9-04 of the Administrative Code using current, prudent engineering practices.

Signature 

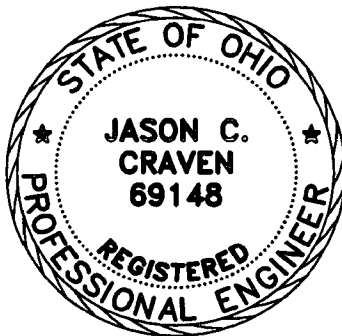
Date 5/11/06



Part 3: Section A/H



**NOT TO SCALE**



*Jason C. Craven* 5/11/06  
Jason C. Craven, P.E.

ADDENDUM TO I.B.R. APPLICATION, ITEM 23

**SUMP DETAIL**

Applicant: AMERICAN ENERGY CORPORATION

MULLETT AIR SHAFT SITE

Township: SUNSBURY

County: MONROE

Contour Interval: N/A

Scale: AS NOTED

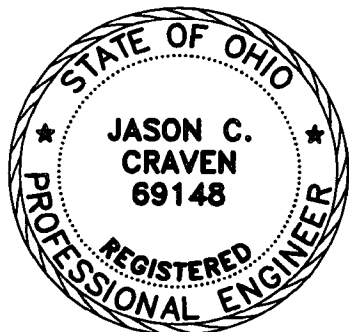
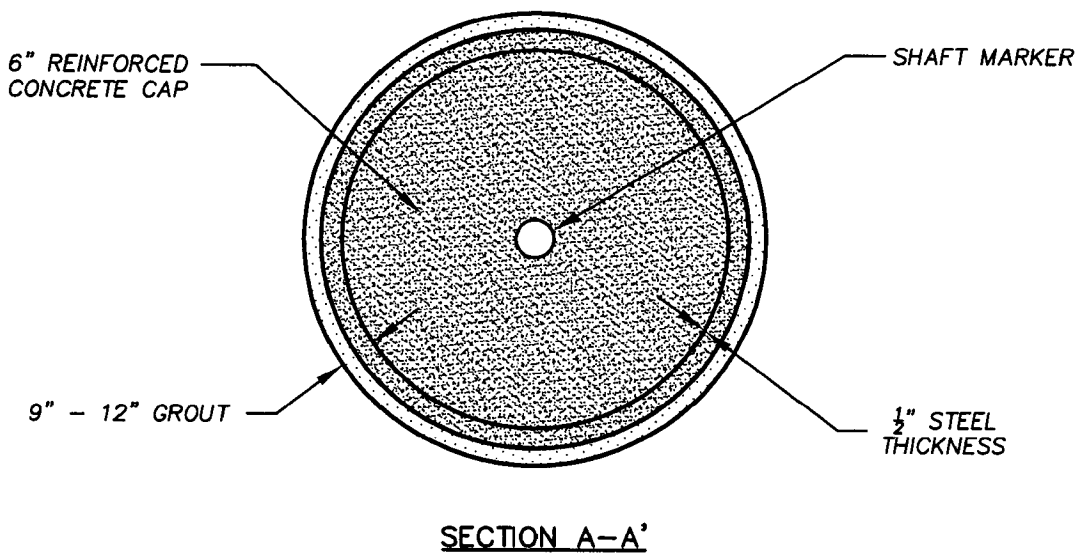
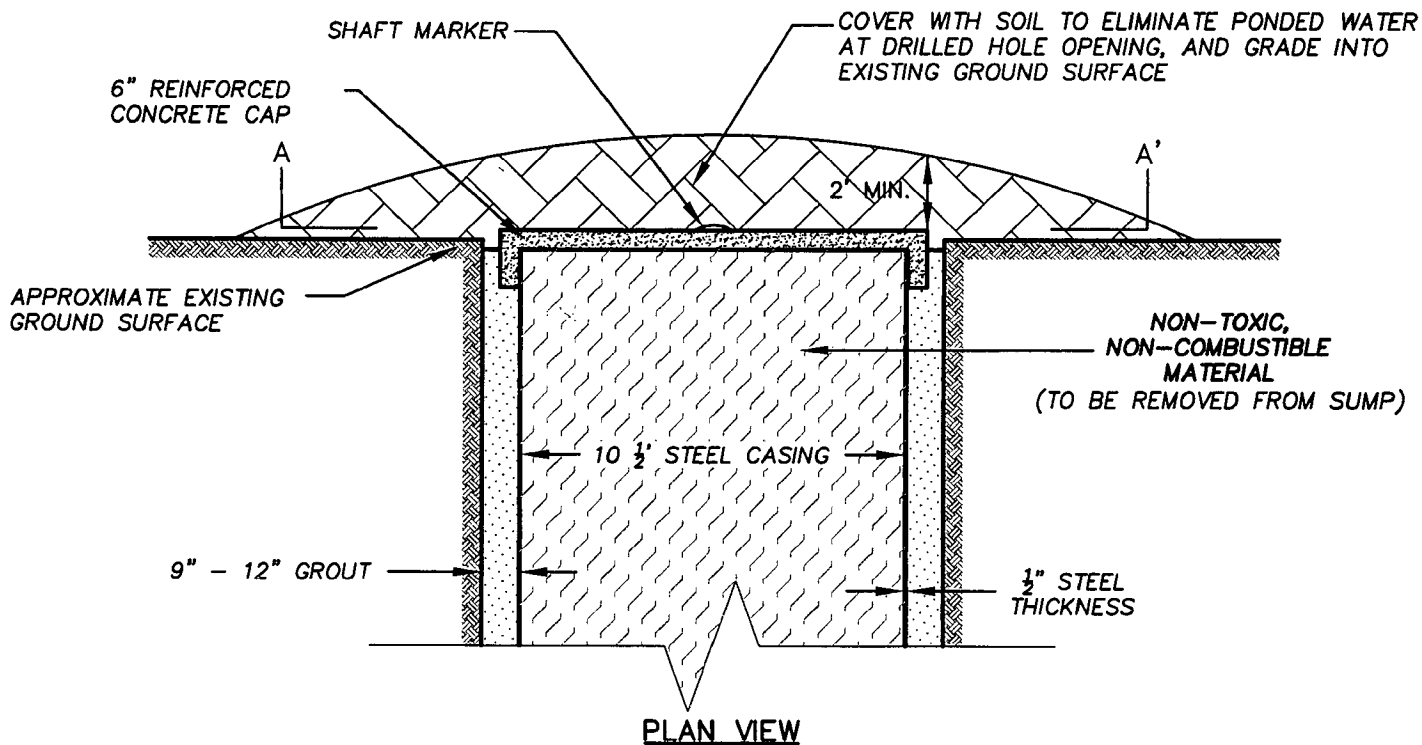
Date: 03/02/06

Date Revised:

Comm #02001-49



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[www.hamiltonandassoc.com](http://www.hamiltonandassoc.com)



*Jason C. Craven* 5/11/06

Jason C. Craven, P.E.

ADDENDUM TO I.B.R. APPLICATION, ITEM 33  
**BOREHOLE RECLAMATION DETAIL**

Applicant: AMERICAN ENERGY CORPORATION

MULLETT AIR SHAFT SITE

Township: SUNSBURY

County: MONROE

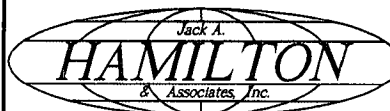
Contour Interval: N/A

Scale: N.T.S.

Date: 03/02/06

Date Revised:

Comm #02001-49



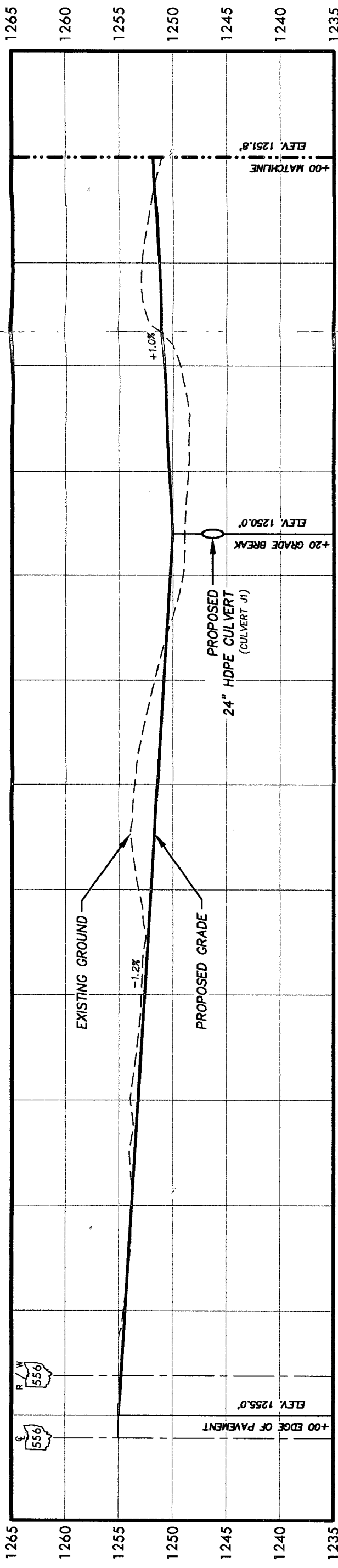
342 High St., Box 471  
Flushing, Ohio 43977

Ph: (740) 968-4947

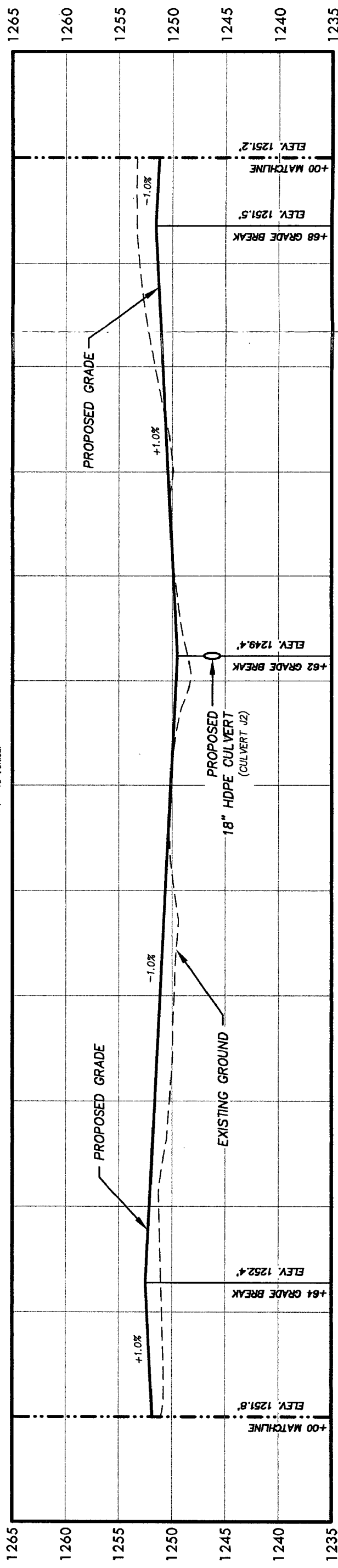
Fax: (740) 968-4225

e-mail: hamilton@1st.net

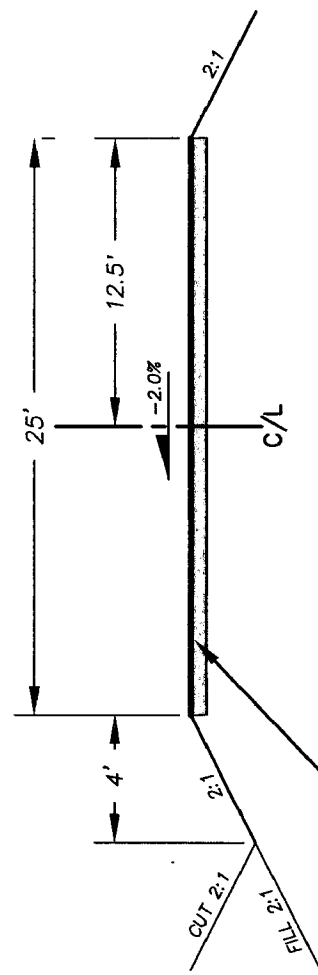
www.hamiltonandassoc.com



**PRIMARY ROAD J PROFILE**  
Station 0+00 to 6+00  
Scale: 1" = 50' Horizontal  
1" = 10' Vertical



**PRIMARY ROAD J PROFILE**  
Station 6+00 to 12+00  
Scale: 1" = 50' Horizontal  
1" = 10' Vertical

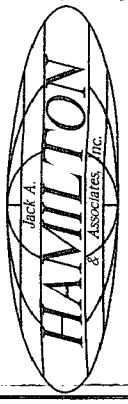


**TYPICAL ACCESS ROAD CROSS SECTION**  
N.T.S.

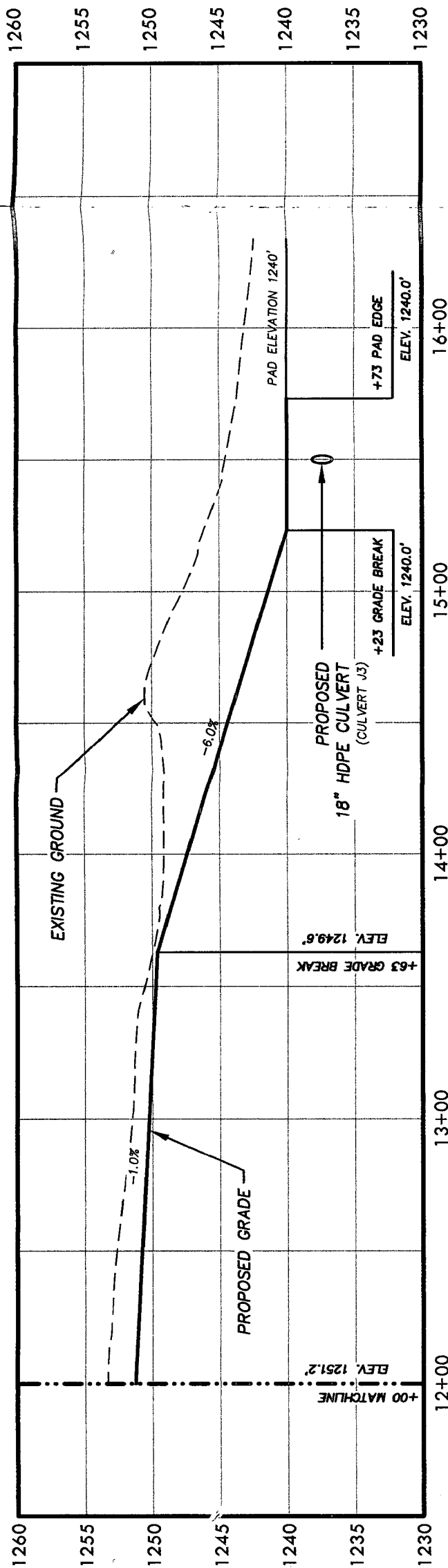


*Jason C. Craven* 5/1/06  
Jason C. Craven, P.E.

ADDENDUM TO I.B.R. APPLICATION, ITEM 34	
<b>PRIMARY ROAD J</b>	
Applicant: AMERICAN ENERGY CORPORATION	
MULLETT AIR SHAFT SITE	
Township: SUNSBURY	County: MONROE
Page 1 of 2	Scale: 1" = AS NOTED
Date: 03/02/06	Date Revised: Comm #02001-49
342 High St., Box 471 Flushing, Ohio 43977 Ph: (740) 968-4947 Fax: (740) 968-4225 e-mail: hamilton@1st.net www.hamiltonandassoc.com	

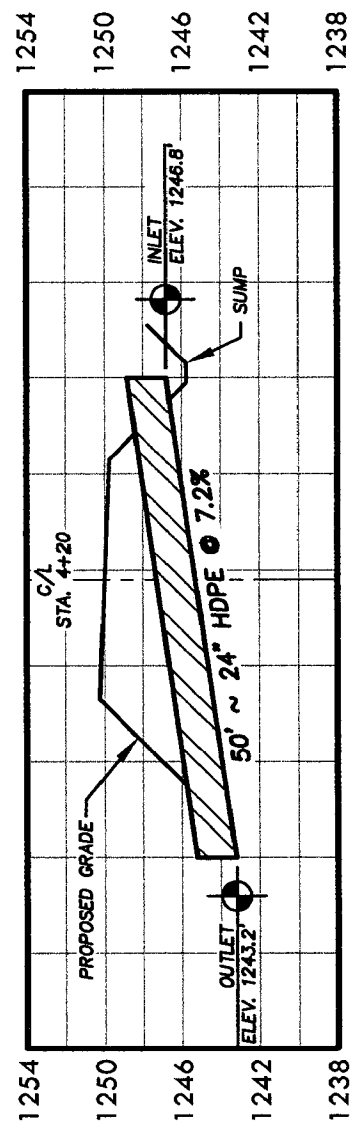






**PRIMARY ROAD J PROFILE**  
Station 12+00 to 15+73

Scale: 1" = 50' Horizontal  
1" = 10' Vertical

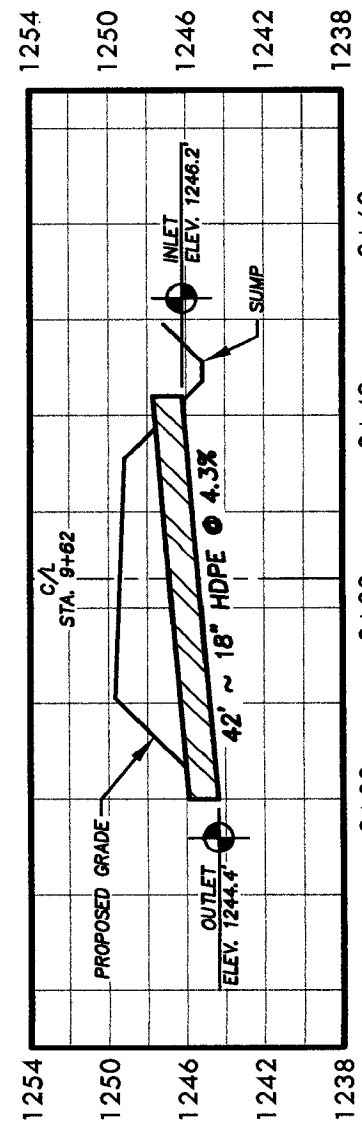


**CULVERT J1 PROFILE**

Scale: 1" = 20' Horizontal  
1" = 10' Vertical

ROCK CHANNEL PROTECTION  
15' L X 8' W X 1.5' D  
24" ROCK

Discharge (25y-24h) = 15.5 cfs  
Depth of Flow = 0.7'  
Headwater = 3.0'  
Outlet Velocity = 17.1 fps

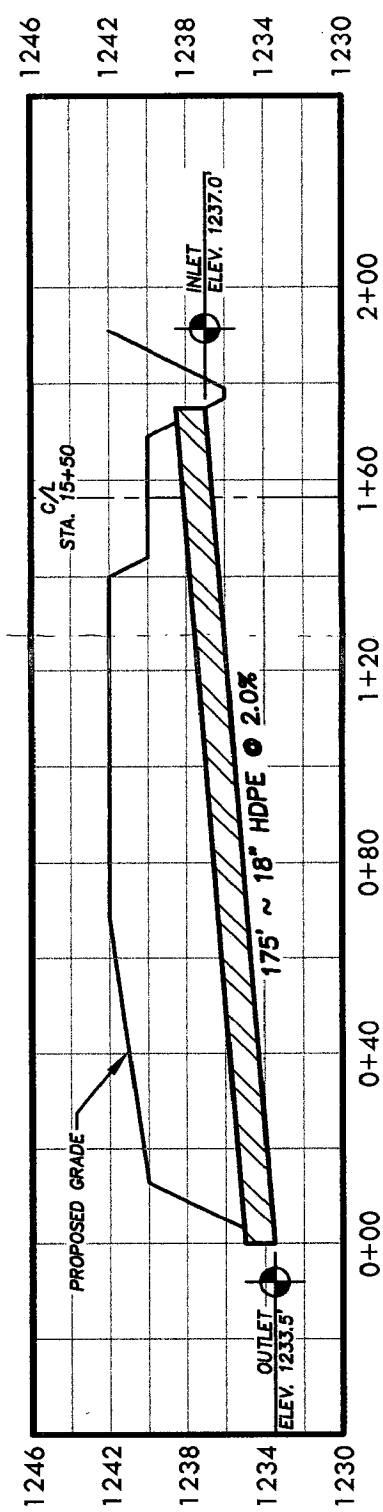


**CULVERT J2 PROFILE**

Scale: 1" = 20' Horizontal  
1" = 10' Vertical

ROCK CHANNEL PROTECTION  
10' L X 8' W X 1.5' D  
24" ROCK

Discharge (25y-24h) = 10.0 cfs  
Depth of Flow = 0.7'  
Headwater = 3.0'  
Outlet Velocity = 12.8 fps

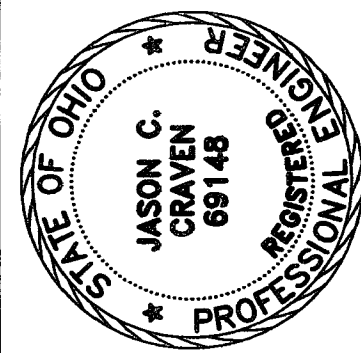


**CULVERT J3 PROFILE**

Scale: 1" = 40' Horizontal  
1" = 10' Vertical

ROCK CHANNEL PROTECTION  
10' L X 8' W X 1.5' D  
24" ROCK

Discharge (25y-24h) = 5.0 cfs  
Depth of Flow = 0.6'  
Headwater = 3.0'  
Outlet Velocity = 8.0 fps



*Jason C. Craven* 5/1/06  
Jason C. Craven, P.E.

ADDENDUM TO I.B.R. APPLICATION, ITEM 34  
**PRIMARY ROAD J**

Applicant: AMERICAN ENERGY CORPORATION	County: MONROE
Township: SUNSBURY	Page 2 of 2
Date: 03/02/06	Date Revised: Comm #02001-49
Scale: 1" = AS NOTED	

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Flushing, Ohio 43977  
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www.hamiltonandassoc.com





**NOTE:**  
THE PRE-MINING LAND USES ARE CROPLAND AND UNDEVELOPED LAND. THE POST-MINING LAND USE WILL BE CROPLAND. SEE LAND USE EXHIBIT MAP.

**INCIDENTAL BOUNDARY REVISION MAP**  
**PERMIT D-0425**  
**(MULLETT SHAFT SITE)**

American Energy Corporation  
43521 Mayhugh Hill Road  
Bealsville, Ohio 43716

- |  |   |  |  |
|--|---|--|--|
|  | AREA TO BE INCLUDED UNDER I.B.R. 7.1 ACRES. |  | ENTRANCE SIGN                          |
|  | SUMP  |  | TREATMENT FACILITY                     |
|  | CLARIFIER                                   |  | PUBLIC WATER                           |
|  | TOPSOIL STORAGE                             |  | AERIAL POWER LINE                      |
|  | S.A.D.E.: 1.2 ACRE                          |  | U.G. TELEPHONE LINE                    |
|  | CROPLAND: 5.8 AC.                           |  | FIBER OPTIC CABLE                      |
|  |   |  | GAS LINE                               |
|  |   |  | UNDERGROUND MINE, BT-270, #8 COAL SEAM |

SITUATED IN SECTION 24, T-4 R-4,  
SUNSBURY TOWNSHIP, MONROE COUNTY, OHIO.

LOCATED ON THE CAMERON USGS  
7 1/2 MINUTE QUADRANGLE MAP.

SCALE: 1" = 400' CONTOUR INTERVAL: 20'

DATE PREPARED: May 10, 2006

I, THE UNDERSIGNED, HEREBY CERTIFY THAT TO THE BEST OF MY KNOWLEDGE AND BELIEF THIS MAP IS TRUE AND CORRECT.

*Cathy M. Bullock*  
REGISTERED SURVEYOR, P.S. #

ACKNOWLEDGED BEFORE ME A NOTARY PUBLIC  
THIS 30th DAY OF June, 2006.

*Ellen M. Green*

ELLEN M. GREER, Notary Public  
State of Ohio

My Commission Expires September 23, 2006

COMMIT: #02001-49

